

APPENDIX:C

Elmwood Residential & Commercial - Transportation Impact Analysis

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August 18, 2004

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Executive Summary

The purpose of this report is to analyze the transportation impacts of the proposed residential and commercial project located north of Great Mall Parkway and east and west of South Abel Street. The site is currently vacant. There are two project alternatives:

- Scenario 1:
 - 180,000 square feet of automobile sales space
 - 115 single family homes
 - 292 townhouses
 - 315 condominiums
 - one-acre city park
- Scenario 2:
 - 240,000 square feet of shopping center space
 - 115 single family homes
 - 292 townhouses
 - 315 condominiums
 - one-acre city park

Access to the project would be provided via driveways on Great Mall Parkway and South Abel Street. Access to the condominiums would occur via new driveways on the east side of South Abel Street and Curtis Avenue. Access to the single family homes and town homes would occur via new driveways on South Abel Street and the existing north/south access roadway that connects to the north leg of the Great Mall Parkway/I-880 northbound ramps intersection. This roadway is hereafter referred to as "Elmwood Road." Access to the commercial uses would occur via new driveways on Elmwood Road and the existing east/west access road on the northern edge of the existing Elmwood facility. This roadway is hereafter referred to as "North Road."

The impacts of the development were evaluated following the guidelines set forth by the City of Milpitas, the City of San Jose, and the Santa Clara Valley Transportation Authority's (VTA) Congestion Management Program (CMP). Each intersection was analyzed using the appropriate level of service (LOS) methodology for the city in which it is located. Thirty-one intersections and six freeway segments were analyzed for this project. In addition, the proposed project's impacts during the PM peak hour were evaluated using the North San Jose Deficiency Plan (NSJDP) 22 intersection average.

Trip Generation & Distribution

The amount of traffic generated by the proposed project was estimated by applying the appropriate trip generation rates to the size of the development. The trip generation rates used were those published by the San Diego Association of Governments (SANDAG) for single family, condominium/townhouses, community shopping center, and automobile sales & repair uses. Pass-by reductions were applied to the shopping center use for only the PM peak hour in accordance with SANDAG recommended guidelines. Scenario 1 would generate 931 AM peak hour trips and 1,320 PM peak hour trips. Scenario 2 would generate 985 AM peak hour trips, and 1,944 PM peak hour trips. The proposed project's trip distribution pattern was estimated based on a variety of factors, including:

- the nature of the proposed use,
- the relative location of complementary land uses,
- previous traffic impact analyses conducted in the area,
- select zone analyses using the 2015 Milpitas Sub-Area Travel demand forecast (TDF) model, and
- select zone analyses using the 2025 BART TDF model.

Intersection Impacts

Project traffic volumes were calculated by adding peak-hour, project-generated traffic to the background volumes. Intersection level of service calculations were conducted to evaluate the impacts of the proposed project at the key intersections. Background conditions served as a base from which the impacts were evaluated. The proposed project would create an adverse significant impact at the following study intersections under scenario 1:

- I-880 Northbound Off-ramp and Great Mall Parkway
- South Abel Street and Great Mall Parkway
- I-880 Southbound Off-ramp and Tasman Drive
- Alder Drive and Tasman Drive
- Calaveras Boulevard and Milpitas Boulevard*
- Great Mall Parkway/East Capitol Avenue and Montague Expressway*
- South Main Street and Carlo Street (unsignalized)
- South Main Street and Corning Avenue (unsignalized)

*Denotes CMP intersections.

All of the signalized intersections would operate at unacceptable levels of service under background conditions for one or both peak hours. The addition of scenario 1 traffic would increase the critical delay by more than 4 seconds and the V/C ratio by more than 0.01 at each of these intersections. At the unsignalized intersections, the project would result in each intersection operating below its level of service standard during one or more peak hours.

Under scenario 2 conditions, the proposed project would create significant impacts at all of the same locations described in scenario 1. However, the average intersection delays would be higher than those of scenario 1 because scenario 2 would add more traffic to the study intersections. Scenario 2 would result in two additional impacts at the following CMP intersections:

- McCandless Drive/Trade Zone Boulevard and Montague Expressway
- South Main Street/Oakland Road and Montague Expressway

These signalized intersections would operate at unacceptable levels of service under background conditions (LOS F). The addition of scenario 2 traffic would increase the critical delay by more than 4 seconds and the V/C ratio by more than 0.01.

Freeway Segment Impacts

Per CMP guidelines for freeway segments, project traffic volumes were calculated by adding peak-hour, project-generated traffic to the existing volumes. The proposed project would create an adverse significant impact at the following freeway segments under both scenarios 1 and 2:

- I-880, Tasman Drive to Montague Expressway - Northbound (PM peak hour)
- I-880, Brokaw Road to Montague Expressway - Southbound (PM peak hour)

It should be noted that the impacts on the freeway segments shown above are located on or directly adjacent to the recent widening of I-880 between Montague Expressway and U.S. 101. However, the average vehicle speeds and volume data supplied by the CMP on these segments were based on traffic conditions before the widening. For this reason, the freeway level of service calculated for this report may be artificially poor. It is believed that traffic conditions on these segments will show significant improvement in the next round of CMP monitoring, which would offset the impact of project traffic. The level of improvement cannot be predicted with certainty. For this reason, and the fact that no feasible project mitigations exist, these impacts should be considered *significant and unavoidable*.

North San Jose Deficiency Plan Impacts

The impacts of the proposed project also were evaluated using the North San Jose Plan (NSJDP) criteria. To remain consistent with NSJDP methods, only San Jose's approved trips were used in the background condition calculation. Under background conditions, the 22-intersection average delay was 60 seconds using TRAFFIX software. With the addition of project traffic, the 22-intersection average would remain at 60 seconds. According to the NSJDP impact criteria, the proposed development would not impact North San Jose, and therefore, mitigation would not be required.

Intersection Mitigation

This section discusses project mitigation for the intersection level of service impacts previously described. The following intersection impacts could be mitigated to less than significant levels by the proposed development under scenarios 1 and 2.

South Main Street and Carlo Street. The intersection of South Main Street and Carlo Way is currently unsignalized and would operate at LOS E under scenarios 1 and 2 during the PM commute hours. The City has plans to signalize this location, but has yet to collect sufficient funds to complete the improvement. A traffic signal would improve the level of service at this location to better than LOS D under scenarios 1 and 2 during both the AM and PM peak hours. Therefore, the recommended mitigation at this location is for the project to make a "fair share" monetary contribution to this improvement so that it could be implemented before the project is completed. The implementation of this mitigation would reduce the project's impact under scenarios 1 and 2 to *less than significant levels*.

South Main Street and Corning Avenue. The intersection of South Main Street and Corning Avenue is currently unsignalized and would operate at LOS E during the PM peak under scenario 1 and scenario 2. A traffic signal would improve the level of service at this location to better than

LOS D under scenarios 1 and 2 during the PM peak hour. Therefore, the recommended mitigation is for the project to construct a traffic signal at this location. The implementation of this mitigation would reduce the project's impact under scenarios 1 and 2 to *less than significant levels*.

In the *Milpitas Midtown Specific Plan EIR*, impacts to the following study intersections were considered *significant and unavoidable* because no feasible mitigation measures could be identified:

- I-880 Northbound Off-ramp and Great Mall Parkway
- South Abel Street and Great Mall Parkway
- I-880 Southbound Off-ramp and Tasman Drive
- Calaveras Boulevard and Milpitas Boulevard*
- Great Mall Parkway/East Capitol Avenue and Montague Expressway*
- South Main Street/Oakland Road and Montague Expressway* (scenario 2 impact only)
- McCandless Drive/Trade Zone Boulevard and Montague Expressway* (scenario 2 impact only)

* Denotes CMP intersections.

A full discussion of these intersections and the lack of feasible improvements is provided in the *Milpitas Midtown Specific Plan EIR*. Under scenario 1 or scenario 2 conditions, there are no feasible mitigation measures to reduce the impacts at these intersections to less than significant levels. Therefore, the impacts at these intersections are *significant and unavoidable*. However, as *partial mitigation* for these impacts, the following measures are recommended:

Midtown Specific Plan Traffic Mitigation Fee. The city has set up a traffic mitigation fee within the Midtown Specific Plan area to fund improvements that are not feasible for individual projects. It is recommended that the proposed project pay its "fair share" of these fees based on the magnitude of its impacts.

Intersections along Montague Expressway. The City of Milpitas and County of Santa Clara currently have plans to widen Montague Expressway between I-880 and I-680 to three mixed flow lanes and one 24-hour HOV lane in each direction. The segment between Great Mall Parkway and I-680 has recently been fully funded by the City of Milpitas and the County of Santa Clara. However, other portions of this improvement remain unfunded. As partial mitigation for project impacts, it is recommended that the proposed project contribute its "fair share" to the costs of widening Montague Expressway. The "fair share" cost is to be determined by the City based on the magnitude of the project impacts.

Improvement to East/West Corridor. The City of Milpitas is currently planning traffic improvements at the intersection of Calaveras Boulevard/Abel Street. Improvements to this intersection would decrease traffic delays on Calaveras Boulevard, which is a key east/west commute corridor in the city. The project would be located in close proximity to this intersection, and therefore, it would send a significant number of project trips through the intersection. Because of this, and the fact that the project cannot fully mitigate its impacts on other east/west corridors (such as Calaveras Boulevard, Tasman Drive and Montague Expressway), it is recommended that the proposed project make a "fair share" monetary contribution to the planned traffic improvements at this intersection.

Great Mall Parkway/I-880 Ramps. Elmwood Road would form the north leg of the Great Mall Parkway/I-880 Ramps intersection. As it is currently configured, the north approach of this

intersection has one right-turn lane and one shared left-through lane. This intersection would operate at LOS F under both scenarios during one or more peak hours. In the *Midtown Specific Plan EIR*, the impact to this location was considered significant and unavoidable due to the high costs of improving it to an acceptable level of service. Much of the future delay problem at this intersection is caused by existing and background traffic. However, improvements to the north leg of the intersection where project access occurs would improve intersection operations. Therefore, it is recommended that the proposed project implement the following geometry at the north leg under either project scenario:

North Approach: One right-turn lane, one shared through-left lane, and one left-turn lane.
North Receiving Lane: One northbound lane.

In addition, the project would be responsible for all signal modifications in conjunction with this improvement.

Tasman Drive and Alder Drive. This intersection would operate at LOS F during the PM peak hour under scenarios 1 and 2. The *Milpitas Midtown Specific Plan* identified mitigation measures for this intersection, but stated that the need for the improvements should be re-evaluated in the future due to potential complications with light rail operation, which runs through the intersection along Tasman Drive. The city has already committed to funding an improvement at this location, if appropriate. However, the intersection would still operate at LOS F. Aside from this improvement, there are no other feasible improvements to this intersection. Therefore, this impact is *significant and unavoidable*.

2015 Impacts

The proposed project contains elements that are inconsistent with the existing Milpitas General Plan. Under the existing General Plan, approximately 34 acres north and west of the existing Elmwood Correctional Facility are planned for commercial uses. This area is referred to in the *Milpitas Midtown Specific Plan* as the Elmwood opportunity site. Under the proposed General Plan, portions of this area would be re-designated to allow residential uses. The proposed condominium uses on the east side of Abel Street would be consistent with the City's General Plan.

The proposed modification to the General Plan would result in changes in traffic generation from the Elmwood opportunity site. Under scenario 1, daily traffic would decrease by 8,514 trips, PM peak hour traffic would decrease by 612 trips and AM peak hour traffic would increase by 99 trips. Under scenario 2, daily traffic would decrease by 714 trips, PM peak hour traffic would increase by 12 trips and AM peak hour traffic would increase by 153 trips.

To determine the impact of the proposed modifications on the General Plan, project trips were assigned to the 2015 roadway network for scenarios 1 and 2. Traffic impacts were evaluated by comparing the traffic conditions of the existing General Plan to those of scenarios 1 and 2. The proposed project would create an adverse significant impact at the following study segments under scenario 1:

- Tasman Drive, McCarthy to I-880, westbound, AM

The proposed project would have a beneficial impact on the following segments under scenario 1:

- Great Mall Parkway, I-880 to Main, westbound, AM
- Main Street, Carlo to Curtis, southbound, AM

- Calaveras Boulevard, Abel to Milpitas, eastbound, PM
- Calaveras Boulevard, Hillview to I-680, eastbound, PM
- Main Street, Curtis to Carlo, northbound, PM

Given the number of street segments that would benefit from scenario 1 versus the number that would be adversely impacted, scenario 1 would be mostly beneficial to the roadway network relative to the existing General Plan. Under scenario 2, the proposed project would create an adverse significant impact at the following study segments:

- Main Street, Curtis to Carlo northbound, AM
- Tasman Drive, McCarthy to I-880, westbound, AM
- Tasman Drive, McCarthy to I-880, eastbound, PM

The proposed project would not have a beneficial impact on any roadway segments under scenario 2. Given the number of street segments that would benefit from scenario 2 versus the number that would be adversely impacted, scenario 2 would be worse than the existing General Plan.

Aside from the mitigation presented in Chapter 4, Project Impacts and Recommendations, no mitigation measures are considered feasible for any of the other roadway segments that would be adversely impacted by scenarios 1 or 2. All of the segments projected to operate at unacceptable levels under the current General Plan will do so because no feasible mitigation measures can be implemented to increase capacity. All of these roadways are already built out and cannot be widened within the existing right-of-way. The secondary impacts of widening these roadways, which include right-of-way acquisition and demolition of existing buildings, would result in greater negative impact on the environment than accommodating the additional congestion. For this reason, these impacts are considered *significant and unavoidable*.

Table ES 1

Signalized Intersection Levels of Service Summary - Scenario 1

Intersection	Peak Hour	Count Date	Existing			Background			Project Conditions		
			Ave. Delay	LOS	Ave. Delay	Ave. Delay	LOS	Ave. Delay	LOS	Incr. In Crit Delay	Incr. In Crit V/C
1. North Milpitas Boulevard and North Abel Street/Jacklin Road	AM	6/6/2001	45.2	D	48.2	D	D	51.2	D	4.2	0.013
	PM	6/6/2001	31.8	C	32.8	C	C	33.2	C	0.7	0.011
2. South Abel Street and West Calaveras Boulevard*	AM	1/19/2000	47.9	D	52.7	D	D	53.1	D	0.0	0.000
	PM	4/26/2000	51.4	D	57.8	E	E	62.1	E	4.8	0.018
3. North/South Milpitas Boulevard and East/West Calaveras Boulevard*	Sat	9/25/1999	44.1	D	44.1	D	D	45.5	D	2.6	0.039
	AM	1/27/2000	42.1	D	42.5	D	D	42.5	D	0.5	0.018
4. South Abbott Avenue and West Calaveras Boulevard	PM	4/26/2000	67.0	E	82.0	F	F	85.8	F	7.0	0.019
	Sat	3/22/2003	39.5	D	39.5	D	D	39.6	D	0.7	0.029
5. Serra Way and West Calaveras Boulevard	AM	1/27/2000	67.2	E	76.1	E	E	78.4	E	3.2	0.008
	PM	9/29/1999	34.8	C	35.0	D	D	35.8	D	1.1	0.011
6. North/South Hillview Drive and East Calaveras Boulevard	Sat	3/22/2003	33.0	C	33.0	C	C	34.1	C	4.7	0.020
	AM	1/27/2000	15.2	B	15.6	B	B	16.6	B	0.4	0.012
7. I-880 Northbound Off-ramp and Great Mall Parkway	PM	9/28/1999	23.5	C	24.2	C	C	24.6	C	2.9	0.006
	AM	3/16/2000	32.5	C	32.4	C	C	33.0	C	0.9	0.019
8. South Abel Street and Great Mall Parkway	PM	3/15/2000	36.8	D	36.9	D	D	37.1	D	0.2	0.011
	Sat	3/22/2003	25.3	C	25.3	C	C	25.7	C	0.0	0.014
9. I-880 Southbound Off-ramp and Tasman Drive	AM	1/20/2000	33.1	C	92.2	F	F	112.8	F	20.7	0.149
	PM	10/21/1999	58.9	E	77.6	E	E	98.9	F	29.8	0.159
10. McCarthy Boulevard and Tasman Drive	Sat	9/25/1999	25.9	C	25.9	C	C	30.8	C	5.8	0.171
	AM	1/26/2000	42.2	D	98.4	F	F	116.1	F	27.5	0.064
11. Alder Drive and Tasman Drive	PM	10/12/1999	28.0	C	29.3	C	C	33.1	C	5.3	0.085
	Sat	10/16/1999	27.0	C	27.0	C	C	25.0	C	1.8	0.068
12. South Main Street and Great Mall Parkway	AM	1/20/2000	31.4	C	143.4	F	F	144.5	F	4.1	0.010
	PM	10/21/1999	25.3	C	54.5	D	D	103.0	F	59.7	0.142
13. South Milpitas Boulevard and Montague Expressway*	Sat	10/16/1999	30.3	C	30.3	C	C	37.0	D	3.4	0.124
	AM	7/11/2000	19.8	B	24.9	C	C	25.0	C	0.0	0.005
14. Great Mall Parkway/East Capitol Avenue and Montague Expressway*	PM	7/11/2000	22.4	C	30.3	C	C	31.3	C	1.3	0.023
	AM	1/25/2000	41.6	D	20.2	C	C	20.6	C	0.5	0.011
15. McCandless Drive/Trade Zone Boulevard and Montague Expressway*	PM	10/21/1999	134.9	F	182.1	F	F	188.6	F	9.4	0.022
	AM	1/20/2000	17.3	B	19.9	B	B	19.6	B	0.3	0.027
16. South Main Street and Great Mall Parkway	PM	10/13/1999	33.0	C	34.5	C	C	33.8	C	0.0	0.037
	Sat	10/23/1999	29.6	C	29.6	C	C	28.5	C	0.0	0.030
17. South Milpitas Boulevard and Montague Expressway*	AM	1/19/2000	105.9	F	62.9	E	E	65.7	E	4.0	0.016
	PM	4/26/2000	39.9	D	41.0	D	D	47.9	D	14.7	0.036
18. Great Mall Parkway/East Capitol Avenue and Montague Expressway*	Sat	10/23/1999	31.5	C	30.9	C	C	30.4	C	0.0	0.016
	AM	1/20/2000	97.5	F	157.2	F	F	175.0	F	29.1	0.064
19. McCandless Drive/Trade Zone Boulevard and Montague Expressway*	PM	4/26/2000	71.8	E	119.8	F	F	155.5	F	39.3	0.013
	Sat	10/9/1999	43.7	D	43.7	D	D	43.3	D	0.5	0.079
20. McCandless Drive/Trade Zone Boulevard and Montague Expressway*	AM	1/20/2000	34.9	C	35.6	D	D	35.9	D	6.4	0.005
	PM	3/16/2000	75.8	E	96.5	F	F	106.3	F	82.9	0.008
21. McCandless Drive/Trade Zone Boulevard and Montague Expressway*	Sat	10/9/1999	36.2	D	36.2	D	D	37.6	D	0.0	0.003

□ - Denotes Project impact

* Denotes CMP intersection.

Table ES 1 (cont.)
Signalized Intersection Levels of Service Summary - Scenario 1

Intersection	Peak Hour	Count Date	Existing			Background			Project Conditions		
			Ave. Delay	LOS	Ave. Delay	Ave. Delay	LOS	Ave. Delay	LOS	Incr. In Crit Delay	Incr. In Crit V/C
16. South Main Street/Oakland Road and Montague Expressway*	AM	1/19/2000	68.1	E	90.0	F	F	89.8	F	0.0	0.000
	PM	4/26/2000	88.8	F	103.6	F	F	103.6	F	1.4	0.015
	Sat	10/23/1999	48.2	D	48.2	D	D	48.9	D	0.7	0.007
17. McCarthy Boulevard/O'Toole Avenue and Montague Expressway*	AM	10/7/1999	38.8	D	39.8	D	D	40.2	D	0.4	0.003
	PM	3/16/2000	122.6	F	119.2	F	F	142.9	F	0.0	0.007
	AM	1/27/2000	12.4	B	13.2	B	B	13.3	B	0.0	0.000
18. South Abel Street and South Main Street	PM	9/29/1999	8.3	A	8.9	A	A	8.8	A	0.0	0.000
	AM	1/20/2000	6.5	A	6.5	A	A	6.4	A	0.1	0.023
	PM	10/4/1999	10.6	B	10.7	B	B	10.7	B	0.2	0.025
19. South Main Street and Serra Way	Sat	10/9/1999	8.3	A	8.3	A	A	8.0	A	0.0	0.043
	AM	1/19/2000	16.9	B	18.3	B	B	18.4	B	0.1	0.014
	PM	10/14/1999	19.3	B	20.0	C	C	20.1	C	0.0	0.000
20. South Main Street and West Curtis Avenue	Sat	10/9/1999	18.5	B	18.5	B	B	19.3	B	0.9	0.000
	AM	1/25/2000	12.4	B	12.5	B	B	13.7	B	0.7	0.050
	PM	1/25/2000	14.6	B	15.0	B	B	14.9	B	1.7	0.078
21. South Abel Street and Coming Avenue	AM	10/13/1999	21.7	C	22.6	C	C	29.8	D	7.1	0.078
	PM	10/13/1999	37.9	E	39.5	E	E	43.8	E	4.2	0.031
	Sat	10/9/1999	10.8	B	10.8	B	B	12.2	B	1.4	0.123
22. South Main Street and Carlo Street (Unsignalized)	AM	1/20/2000	9.5	A	11.1	B	B	12.0	B	1.0	0.067
	PM	10/7/1999	9.3	A	9.3	A	A	10.8	B	2.0	0.089
	Sat	10/9/1999	8.4	A	8.4	A	A	9.4	A	1.6	0.075
23. South Abel Street and West Serra Way	AM	1/20/2000	21.4	C	21.2	C	C	22.4	C	1.8	0.056
	PM	9/28/1999	23.6	C	24.6	C	C	27.6	C	1.5	0.042
	Sat	10/9/1999	24.7	C	24.7	C	C	24.7	C	2.2	0.097
24. I-880 Northbound Off-ramp and West Calaveras Boulevard	AM	8/1/2002	17.5	B	17.9	B	B	18.1	B	0.1	0.004
	PM	8/1/2002	25.2	C	25.4	C	C	25.5	C	0.1	0.004
	AM	9/16/2003	9.2	A	9.1	A	A	9.1	A	0.0	0.008
25. I-880 Southbound Off-ramp and West Calaveras Boulevard	PM	9/16/2003	8.4	A	8.3	A	A	8.5	A	0.3	0.005
	AM	1/25/2000	14.9	B	15.0	B	B	19.0	C	0.9	0.000
	PM	1/25/2000	24.9	C	25.8	D	D	38.3	E	2.0	0.000
26. South Main Street and Coming Avenue (Unsignalized) /a/	AM	n/a	n/a	n/a	n/a	n/a	n/a	11.4	B	n/a	n/a
	PM	n/a	n/a	n/a	n/a	n/a	n/a	12.2	B	n/a	n/a
	Sat	n/a	n/a	n/a	n/a	n/a	n/a	13.7	B	n/a	n/a
27. South Abel Street and North Road (Unsignalized) /a/	AM	n/a	n/a	n/a	n/a	n/a	n/a	30.9	D	n/a	n/a
	PM	n/a	n/a	n/a	n/a	n/a	n/a	22.8	C	n/a	n/a
	Sat	n/a	n/a	n/a	n/a	n/a	n/a	34.5	D	n/a	n/a
28. Project Driveway and Curtis Avenue (Unsignalized) /a/	AM	n/a	n/a	n/a	n/a	n/a	n/a	9.1	A	n/a	n/a
	PM	n/a	n/a	n/a	n/a	n/a	n/a	8.8	A	n/a	n/a
	Sat	n/a	n/a	n/a	n/a	n/a	n/a	9.0	A	n/a	n/a
29. South Abel Street and Project Driveway (South) (Unsignalized) /a/	AM	n/a	n/a	n/a	n/a	n/a	n/a	24.7	C	n/a	n/a
	PM	n/a	n/a	n/a	n/a	n/a	n/a	24.9	C	n/a	n/a
	Sat	n/a	n/a	n/a	n/a	n/a	n/a	14.5	B	n/a	n/a

/a/ Average delay and level of service reflects worst intersection leg.

□ - Denotes Project impact

* Denotes CMP intersection.

Table ES 2

Signalized Intersection Levels of Service Summary - Scenario 2

Intersection	Peak Hour	Count Date	Existing			Background			Project Conditions		
			Ave. Delay	LOS	Ave. Delay	Ave. Delay	LOS	Ave. Delay	Incr. In Crit Delay	Incr. In Crit V/C	Incr. In Crit V/C
1. North Milpitas Boulevard and North Abel Street/Jacklin Road	AM	6/6/2001	45.2	D	48.2	D	D	51.1	D	3.9	0.012
	PM	6/6/2001	31.8	C	32.8	C	C	33.4	C	1.0	0.016
	AM	1/19/2000	47.9	D	52.7	D	D	53.0	D	0.0	0.000
2. South Abel Street and West Calaveras Boulevard*	PM	4/26/2000	51.4	D	57.8	E	E	65.1	E	6.8	0.025
	Sat	9/25/1999	44.1	D	44.1	D	D	47.7	D	0.0	0.095
	AM	1/27/2000	42.1	D	42.5	D	D	42.5	D	0.4	0.018
3. North/South Milpitas Boulevard and East/West Calaveras Boulevard*	PM	4/26/2000	67.0	E	82.0	F	F	88.1	F	11.0	0.030
	Sat	3/22/2003	39.5	D	39.5	D	D	39.7	D	1.9	0.065
	AM	1/27/2000	67.2	E	76.1	E	E	78.5	E	3.3	0.008
4. South Abbott Avenue and West Calaveras Boulevard	PM	9/29/1999	34.8	C	35.0	D	D	35.8	D	1.1	0.011
	Sat	3/22/2003	33.0	C	33.0	C	C	35.1	D	6.1	0.031
	AM	1/27/2000	15.2	B	15.6	B	B	16.7	B	3.0	0.013
5. Serra Way and West Calaveras Boulevard	PM	9/28/1999	23.5	C	24.2	C	C	24.6	C	2.9	0.006
	AM	3/16/2000	32.5	C	32.4	C	C	33.1	C	1.1	0.020
	PM	3/15/2000	36.8	D	36.9	D	D	37.1	D	0.3	0.015
6. North/South Hillview Drive and East Calaveras Boulevard	Sat	3/22/2003	25.3	C	25.3	C	C	26.1	C	0.0	0.034
	AM	1/20/2000	33.1	C	92.2	F	F	113.0	F	20.6	0.164
	PM	10/21/1999	58.9	E	77.6	E	E	129.4	F	85.2	0.278
8. South Abel Street and Great Mall Parkway	Sat	9/25/1999	25.9	C	25.9	C	C	57.2	E	52.8	0.449
	AM	1/26/2000	42.2	D	98.4	F	F	115.3	F	27.0	0.062
	PM	10/12/1999	28.0	C	29.3	C	C	35.1	D	8.1	0.117
9. I-880 Southbound Off-ramp and Tasman Drive	Sat	10/16/1999	27.0	C	27.0	C	C	26.1	C	0.0	0.171
	AM	1/20/2000	31.4	C	143.4	F	F	144.4	F	4.2	0.010
	PM	10/21/1999	25.3	C	54.5	D	D	129.2	F	91.1	0.212
10. McCarthy Boulevard and Tasman Drive	Sat	10/16/1999	30.3	C	30.3	C	C	52.1	D	25.5	0.274
	AM	7/11/2000	19.8	B	24.9	C	C	25.0	C	0.1	0.005
	PM	7/11/2000	22.4	C	30.3	C	C	31.7	C	1.9	0.032
11. Alder Drive and Tasman Drive	AM	1/25/2000	41.6	D	20.2	C	C	20.6	C	0.5	0.011
	PM	10/21/1999	134.9	F	182.1	F	F	190.3	F	12.0	0.028
	AM	1/20/2000	17.3	B	19.9	B	B	19.6	B	0.3	0.026
12. South Main Street and Great Mall Parkway	PM	10/13/1999	33.0	C	34.5	C	C	33.7	C	0.0	0.053
	Sat	10/23/1999	29.6	C	29.6	C	C	27.0	C	0.0	0.080
	AM	1/19/2000	105.9	F	62.9	E	E	65.5	E	3.9	0.016
13. South Milpitas Boulevard and Montague Expressway*	PM	4/26/2000	39.9	D	41.0	D	D	45.0	D	7.9	0.054
	Sat	10/23/1999	31.5	C	30.9	C	C	29.8	C	0.0	0.040
	AM	1/20/2000	97.5	F	157.2	F	F	174.8	F	28.3	0.062
14. Great Mall Parkway/East Capitol Avenue and Montague Expressway*	PM	4/26/2000	71.8	E	119.8	F	F	138.0	F	10.0	0.014
	Sat	10/9/1999	43.7	D	43.7	D	D	43.6	D	2.6	0.205
	AM	1/20/2000	34.9	C	35.6	D	D	36.0	D	6.5	0.006
15. McCandless Drive/Trade Zone Boulevard and Montague Expressway*	PM	3/16/2000	75.8	E	96.5	F	F	99.3	F	4.1	0.010
	Sat	10/9/1999	36.2	D	36.2	D	D	41.4	D	0.0	0.103

Denotes Project Impact

Denotes CMP Intersection.

Table ES 2 (cont.)

Signalized Intersection Levels of Service Summary - Scenario 2

Intersection	Peak Hour	Count Date	Existing			Background			Project Conditions		
			Ave. Delay	LOS	Ave. Delay	Ave. Delay	LOS	Ave. Delay	LOS	Incr. In Delay	Incr. In Crit V/C
16. South Main Street/Oakland Road and Montague Expressway*	AM	1/19/2000	68.1	E	90.0	F	89.8	F	0.0	0.000	0.000
	PM	4/26/2000	88.8	F	103.6	F	108.1	F	7.2	0.017	0.015
17. McCarthy Boulevard/O'Toole Avenue and Montague Expressway*	Sat	10/23/1999	48.2	D	48.2	D	48.8	D	1.4	0.015	0.015
	AM	10/7/1999	38.8	D	39.8	D	40.2	D	0.4	0.003	0.003
18. South Abel Street and South Main Street	PM	3/16/2000	122.6	F	119.2	F	118.9	F	0.0	0.005	0.005
	AM	1/27/2000	12.4	B	13.2	B	13.3	B	0.0	0.000	0.000
19. South Main Street and Serra Way	PM	9/29/1999	8.3	A	8.9	A	8.8	A	0.0	0.000	0.000
	AM	1/20/2000	6.5	A	6.5	A	6.4	A	0.1	0.025	0.025
20. South Main Street and West Curtis Avenue	PM	10/4/1999	10.6	B	10.7	B	10.7	B	0.2	0.034	0.034
	Sat	10/9/1999	8.3	A	8.3	A	7.9	A	0.0	0.094	0.094
21. South Abel Street and Corning Avenue	AM	1/19/2000	16.9	B	18.3	B	18.4	B	0.1	0.014	0.014
	PM	10/14/1999	19.3	B	20.0	C	20.1	C	0.0	0.000	0.000
22. South Main Street and Carlo Street (Unsignalized)	Sat	10/9/1999	18.5	B	18.5	B	19.3	B	0.9	0.000	0.000
	AM	1/25/2000	12.4	B	12.5	B	13.8	B	0.9	0.050	0.050
23. South Abel Street and West Serra Way	PM	1/25/2000	14.6	B	15.0	B	15.6	B	2.5	0.107	0.107
	AM	10/13/1999	21.7	C	22.6	C	30.7	D	8.0	0.088	0.088
24. I-880 Northbound Off-ramp and West Calaveras Boulevard	Sat	10/9/1999	37.9	E	39.5	E	45.8	E	6.3	0.044	0.044
	AM	1/20/2000	10.8	B	10.8	B	15.1	C	4.3	0.277	0.277
25. I-880 Southbound Off-ramp and West Calaveras Boulevard	PM	10/7/1999	9.5	A	11.1	B	12.0	B	1.0	0.066	0.066
	Sat	10/9/1999	8.4	A	8.4	A	11.1	B	2.5	0.105	0.105
26. I-880 Northbound Off-ramp and West Calaveras Boulevard	AM	1/20/2000	21.4	C	21.2	C	22.4	C	1.8	0.055	0.055
	PM	9/28/1999	23.6	C	24.6	C	30.5	C	1.6	0.050	0.050
27. South Main Street and Corning Avenue (Unsignalized) /a/	Sat	10/9/1999	24.7	C	24.7	C	25.4	C	3.5	0.145	0.145
	AM	8/1/2002	17.5	B	17.9	B	18.2	B	0.1	0.004	0.004
28. South Abel Street and Project Drive (North) (Signalized)	PM	8/1/2002	25.2	C	25.4	C	25.5	C	0.1	0.004	0.004
	AM	9/16/2003	9.2	A	9.1	A	9.1	A	0.0	0.009	0.009
29. South Abel Street and North Road (Unsignalized) /a/	PM	9/16/2003	8.4	A	8.3	A	8.5	A	0.3	0.005	0.005
	AM	1/25/2000	14.9	B	15.0	B	19.7	C	1.1	0.000	0.000
30. Project Drive and Curtis Avenue (Unsignalized) /a/	PM	1/25/2000	24.9	C	25.8	D	45.4	E	3.2	0.000	0.000
	AM	n/a	n/a	n/a	n/a	n/a	11.4	B	n/a	n/a	n/a
31. South Abel Street and Project Drive (South) (Unsignalized) /a/	PM	n/a	n/a	n/a	n/a	n/a	12.4	B	n/a	n/a	n/a
	Sat	n/a	n/a	n/a	n/a	n/a	14.0	B	n/a	n/a	n/a
32. South Abel Street and North Road (Unsignalized) /a/	AM	n/a	n/a	n/a	n/a	n/a	34.8	D	n/a	n/a	n/a
	PM	n/a	n/a	n/a	n/a	n/a	33.6	D	n/a	n/a	n/a
33. Project Drive and Curtis Avenue (Unsignalized) /a/	Sat	n/a	n/a	n/a	n/a	n/a	29.3	D	n/a	n/a	n/a
	AM	n/a	n/a	n/a	n/a	n/a	9.1	A	n/a	n/a	n/a
34. South Abel Street and Project Drive (South) (Unsignalized) /a/	PM	n/a	n/a	n/a	n/a	n/a	8.8	A	n/a	n/a	n/a
	Sat	n/a	n/a	n/a	n/a	n/a	9.0	A	n/a	n/a	n/a
35. South Abel Street and Project Drive (South) (Unsignalized) /a/	AM	n/a	n/a	n/a	n/a	n/a	24.8	C	n/a	n/a	n/a
	PM	n/a	n/a	n/a	n/a	n/a	34.2	D	n/a	n/a	n/a
36. South Abel Street and Project Drive (South) (Unsignalized) /a/	Sat	n/a	n/a	n/a	n/a	n/a	28.1	D	n/a	n/a	n/a
	AM	n/a	n/a	n/a	n/a	n/a	28.1	D	n/a	n/a	n/a

/a/ Average delay and level of service reflects worst intersection leg.

□ - Denotes Project Impact

* Denotes CMP Intersection.

1.

Introduction

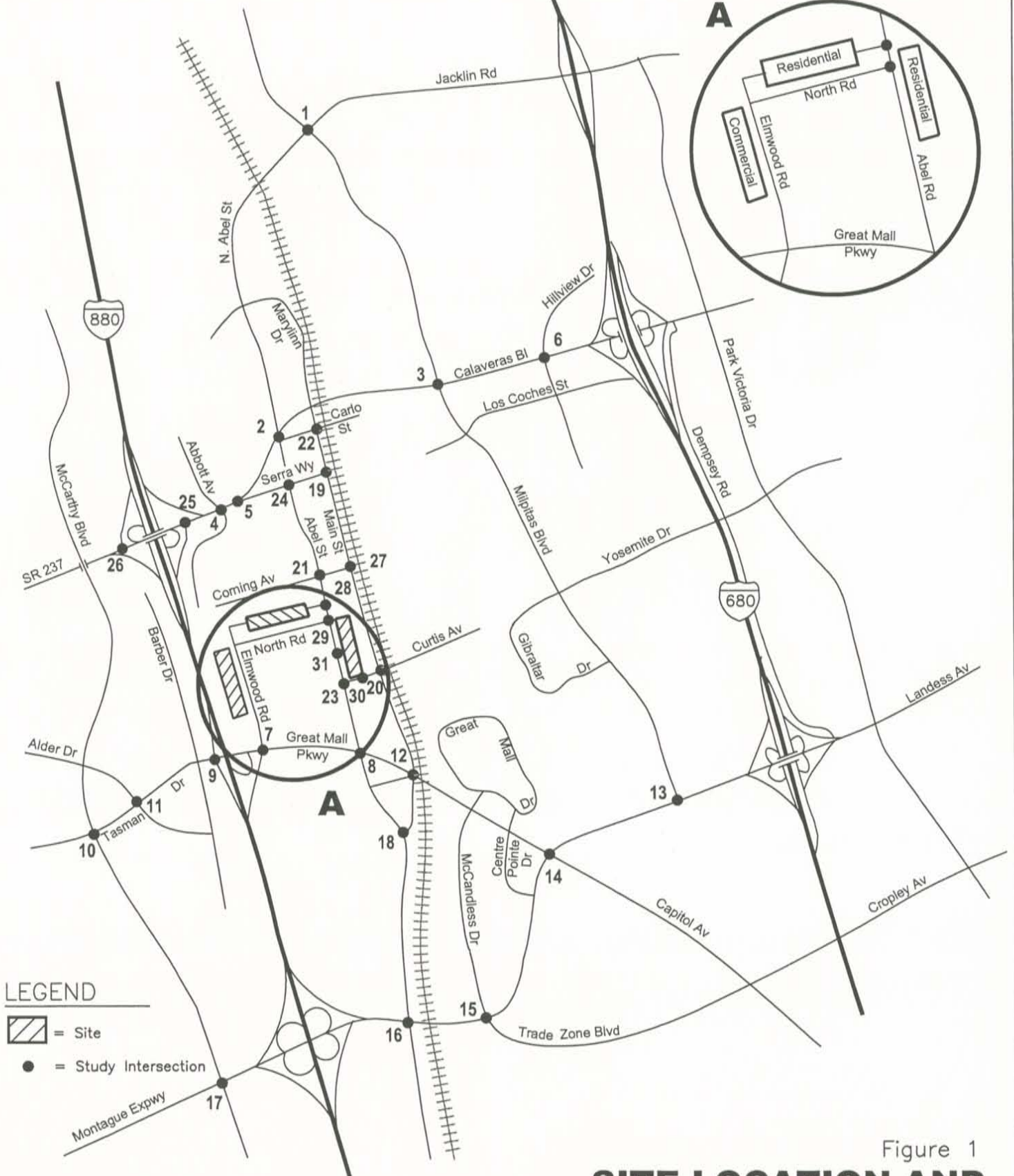
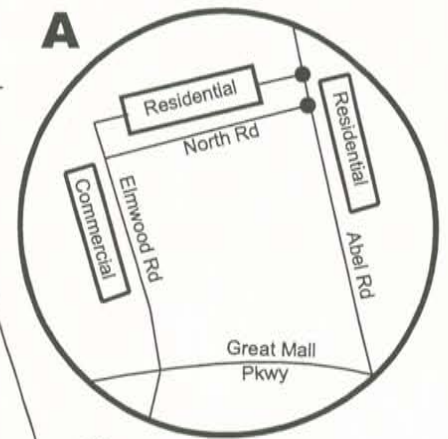
The purpose of this report is to analyze the transportation impacts of the proposed residential and commercial project located north of Great Mall Parkway and east and west of South Abel Street. The site is currently vacant. There are two project alternatives:

- Scenario 1:
 - 180,000 square feet of automobile sales space
 - 115 single family homes
 - 292 townhouses
 - 315 condominiums
 - one-acre city park

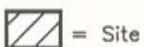
- Scenario 2:
 - 240,000 square feet of shopping center space
 - 115 single family homes
 - 292 townhouses
 - 315 condominiums
 - one-acre city park

Access to the project would be provided via driveways on Great Mall Parkway and South Abel Street. Access to the condominiums would occur via new driveways on the east side of South Abel Street and the north side of Curtis Avenue. Access to the single family homes and town homes would occur via new driveways on South Abel Street and the existing north/south access roadway that connects to the north leg of the Great Mall Parkway/I-880 northbound ramps intersection. This roadway is hereafter referred to as "Elmwood Road." Access to the commercial uses would occur via new driveways on Elmwood Road and the existing east/west access road on the northern edge of the existing Elmwood facility. This roadway is hereafter referred to as "North Road."

↑
Not to Scale



LEGEND



● = Study Intersection

Hexagon
Transportation Consultants, Inc.

Figure 1
**SITE LOCATION AND
STUDY INTERSECTIONS**
Elmwood Residential

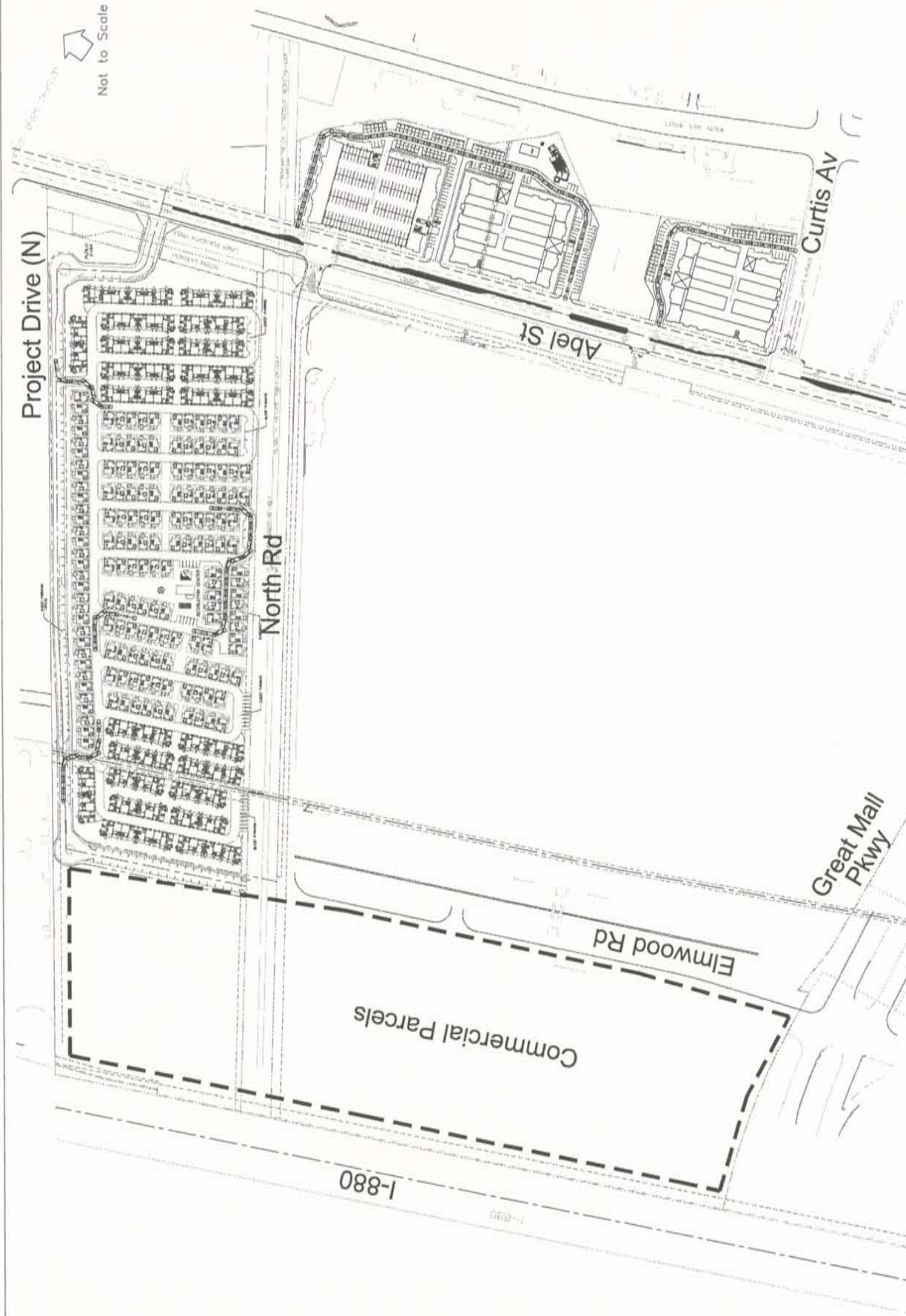


Figure 2

PROPOSED SITE PLAN

Elmwood Residential

Scope of Work

The impacts of the development were evaluated following the guidelines set forth by the City of Milpitas, the City of San Jose, and the Santa Clara Valley Transportation Authority's (VTA) Congestion Management Program (CMP). Each intersection was analyzed using the appropriate level of service (LOS) methodology for the city in which it is located. The following intersections were analyzed for this project. The CMP intersections are denoted with an asterisk (*).

- South Abbott Avenue and West Calaveras Boulevard
- South Abel Street and West Calaveras Boulevard*
- South Abel Street and West Serra Way
- South Abel Street and Corning Avenue
- South Abel Street and West Curtis Avenue
- South Abel Street and Great Mall Parkway
- South Abel Street and South Main Street
- South Main Street/Oakland Road and Montague Expressway*
- South Main Street and Carlo Street
- South Main Street and Serra Way
- South Main Street and Corning Avenue
- South Main Street and West Curtis Avenue
- South Main Street and Great Mall Parkway
- North/South Hillview Drive and East Calaveras Boulevard
- South Milpitas Boulevard and Montague Expressway*
- I-880 Southbound Off-ramp and West Calaveras Boulevard
- I-880 Northbound Off-ramp and West Calaveras Boulevard
- I-880 Northbound Off-ramp and Great Mall Parkway
- I-880 Southbound Off-ramp and Tasman Drive
- North Milpitas Boulevard and North Abel Street/Jacklin Road
- North/South Milpitas Boulevard and East/West Calaveras Boulevard*
- Great Mall Parkway/East Capitol Avenue and Montague Expressway*
- McCandless Drive/Trade Zone Boulevard and Montague Expressway*
- Alder Drive and Tasman Drive
- McCarthy Boulevard Tasman Drive
- Serra Way and West Calaveras Boulevard
- South Abel Street and New Project Driveways
- South Abel Street and North Road
- Curtis Avenue and New Project Driveway
- McCarthy Boulevard/O'Toole Avenue and Montague Expressway*

These intersections were selected based on CMP guidelines, which state that an intersection should be analyzed for impacts if project traffic would add more than ten trips per lane to any intersection approach. The intersections were analyzed during the weekday AM and PM peak hours of traffic (commonly referred to as the commute hours), which occur from 7:00 - 9:00 AM, and 4:00 - 6:00 PM. In addition, selected intersections that would be heavily influenced by commercial traffic were analyzed during the Saturday midday peak period, which occurs from 1:00 to 3:00 PM. The weekday AM, PM and Saturday midday periods represent the most congested traffic conditions of an average weekday, and also correspond with the peak hours of trip generation of the proposed development.

In addition, the proposed project's impacts during the PM peak hour were evaluated using the North San Jose Deficiency Plan (NSJDP) 22 intersection average. All of these intersections are designated CMP intersections. They are:

- U.S. 101 and Brokaw Road
- SR 237 and North First Street (north)
- SR 237 and North First Street (south)
- SR 237 and Zanker Road (north)
- SR 237 and Zanker Road (south)
- I-880 and Brokaw Road (East)

- I-880 and Brokaw Road (West)
- I-880 and North First Street (North)
- I-880 and North First Street (South)
- Brokaw Road and Old Oakland Road
- Brokaw Road and North First Street
- Brokaw Road and Zanker Road
- De La Cruz Avenue Boulevard and Trimble Road
- North First Street and Montague Expressway
- North First Street and Trimble Road
- Lundy Avenue and Murphy Avenue
- Montague Expressway and Zanker Road
- Montague Expressway and Trade Zone/McCandless Drive
- Montague Expressway and South Main Street/Old Oakland Road
- Montague Expressway and McCarthy Boulevard/O'toole
- Montague Expressway and Trimble Road
- Trimble Road and Zanker Road

The CMP's requirements regarding the need to study freeway segments for the proposed project were also evaluated. According to CMP guidelines, a freeway segment should be studied when a proposed development would add traffic to a segment greater than one percent of its capacity. Tables 1 and 2 show this comparison for scenarios 1 and 2, respectively. (The methods used to assign project traffic to the roadway network are described in the "Project Impacts and Recommendations" chapter of this report.) The capacity of a mixed-flow lane as specified by the 2000 *Highway Capacity Manual* is 2,200 vehicles per hour (vph) on four-lane facilities, and 2,300 vph on facilities with six or more lanes. The capacity of high occupancy vehicle lanes (HOV) were not included in this calculation. Based on this comparison, the following freeway segments required study for Scenario 1:

- I-880, Tasman Drive to Montague Expressway - Southbound
- I-880, Tasman Drive to Montague Expressway - Northbound
- I-880, Brokaw Road to Montague Expressway - Southbound
- I-880, Brokaw Road to Montague Expressway - Northbound

The following freeway segments required study for Scenario 2:

- I-880, Tasman Drive to Montague Expressway - Southbound
- I-880, Tasman Drive to Montague Expressway - Northbound
- I-880, Brokaw Road to Montague Expressway - Southbound
- I-880, Brokaw Road to Montague Expressway - Northbound
- I-880, SR 237 to Tasman Drive - Southbound
- I-680, Capitol Avenue to Montague Expressway - Northbound

The operations of the key intersections and freeway segments were evaluated for the following scenarios:

Scenario 1: *Existing Conditions.* Existing conditions were represented by existing peak-hour traffic volumes on the existing roadway network. Existing traffic volumes were obtained from recent traffic counts and the *Milpitas Midtown Specific Plan EIR*, where available. Intersections and freeway segments were evaluated for existing conditions.

Scenario 2 *Background Conditions.* Background conditions were represented by future background traffic volumes on the near-term future roadway network. Background traffic volumes were estimated by adding to existing peak-hour volumes the projected volumes from approved but not yet completed developments. The latter component was estimated based on data from the *Milpitas Midtown Specific Plan EIR*. Intersections were evaluated for background conditions.

Table 1
Freeway Segment Evaluation - Scenario 1

Freeway	Segment	Direction	# of Lanes	Capacity' (vphpl)	1% of Capacity	Peak Hour	Project Trips
I-880	Dixon Landing Road to SR 237	SB	4	9200	92	AM PM	29 37
I-880	SR 237 to Tasman Drive	SB	3.5	8050	81	AM PM	47 50
I-880	Tasman Drive to Montague Expwy	SB	3.5	8050	81	AM PM	93 151
I-880	Montague Expwy to Brokaw Road ²	SB	3	6900	69	AM PM	81 135
I-680	Scott Creek Road to Jacklin Road	SB	3	6900	69	AM PM	29 31
I-680	Jacklin Road to Calaveras Blvd	SB	3.5	8050	81	AM PM	29 31
I-680	Calaveras Blvd to Yosemite Drive	SB	4	9200	92	AM PM	0 0
I-680	Yosemite Drive to Montague Expressway	SB	4	9200	92	AM PM	0 0
I-680	Montague Expressway to Capitol Avenue	SB	4	9200	92	AM PM	44 54
SR 237	McCarthy Blvd to Zanker Road	WB	2	4600	46	AM PM	31 24
I-880	SR 237 to Dixon Landing Road	NB	3.6	8280	83	AM PM	26 37
I-880	Tasman Drive to SR 237	NB	3.5	8050	81	AM PM	42 54
I-880	Montague Expwy to Tasman Drive	NB	3.5	8050	81	AM PM	79 155
I-880	Brokaw Road to Montague Expwy ²	NB	3	6900	69	AM PM	73 135
I-680	Jacklin Road to Scott Creek Road	NB	3	6900	69	AM PM	26 29
I-680	Calaveras Blvd to Jacklin Road	NB	3.5	8050	81	AM PM	26 29
I-680	Yosemite Drive to Calaveras Blvd	NB	4	9200	92	AM PM	0 0
I-680	Montague Expressway to Yosemite Drive	NB	4	9200	92	AM PM	0 0
I-680	Capitol Avenue to Montague Expressway	NB	4	9200	92	AM PM	57 54
SR 237	Zanker Road to McCarthy Blvd	EB	2	4600	46	AM PM	25 34

1. Capacity was based on the ideal capacity cited in the *1994 Highway Capacity Manual*

2. Assumes roadway will be widened to six lanes.

Table 2
Freeway Segment Evaluation - Scenario 2

Freeway	Segment	Direction	# of Lanes	Capacity ¹ (vphpl)	1% of Capacity	Peak Hour	Project Trips
I-880	Dixon Landing Road to SR 237	SB	4	9200	92	AM PM	28 64
I-880	SR 237 to Tasman Drive	SB	3.5	8050	81	AM PM	45 88
I-880	Tasman Drive to Montague Expwy	SB	3.5	8050	81	AM PM	106 217
I-880	Montague Expwy to Brokaw Road ²	SB	3	6900	69	AM PM	93 195
I-680	Scott Creek Road to Jacklin Road	SB	3	6900	69	AM PM	28 50
I-680	Jacklin Road to Calaveras Blvd	SB	3.5	8050	81	AM PM	28 50
I-680	Calaveras Blvd to Yosemite Drive	SB	4	9200	92	AM PM	0 0
I-680	Yosemite Drive to Montague Expressway	SB	4	9200	92	AM PM	0 0
I-680	Montague Expressway to Capitol Avenue	SB	4	9200	92	AM PM	55 78
SR 237	McCarthy Blvd to Zanker Road	WB	2	4600	46	AM PM	35 31
I-880	SR 237 to Dixon Landing Road	NB	3.6	8280	83	AM PM	31 54
I-880	Tasman Drive to SR 237	NB	3.5	8050	81	AM PM	52 78
I-880	Montague Expwy to Tasman Drive	NB	3.5	8050	81	AM PM	76 260
I-880	Brokaw Road to Montague Expwy ²	NB	3	6900	69	AM PM	70 231
I-680	Jacklin Road to Scott Creek Road	NB	3	6900	69	AM PM	31 41
I-680	Calaveras Blvd to Jacklin Road	NB	3.5	8050	81	AM PM	31 41
I-680	Yosemite Drive to Calaveras Blvd	NB	4	9200	92	AM PM	0 0
I-680	Montague Expressway to Yosemite Drive	NB	4	9200	92	AM PM	0 0
I-680	Capitol Avenue to Montague Expressway	NB	4	9200	92	AM PM	55 92
SR 237	Zanker Road to McCarthy Blvd	EB	2	4600	46	AM PM	24 45

1. Capacity was based on the ideal capacity cited in the *1994 Highway Capacity Manual*

2. Assumes roadway will be widened to six lanes.

- Scenario 3** *Project Conditions.* Project conditions were represented by future traffic volumes, with the project, on the near-term future roadway network. Future traffic volumes with the project (hereafter called *project traffic volumes*) were estimated by adding to background traffic volumes the additional traffic generated by the project. Project conditions were evaluated relative to background conditions in order to determine potential project impacts. Intersections and freeway segments were evaluated for existing conditions.
- Scenario 4** *Cumulative Conditions.* Cumulative conditions were represented by year 2015 traffic volumes on the roadway network. Traffic volumes were obtained from the City of Milpitas travel forecast model. Impacts for cumulative conditions were evaluated relative to the existing Milpitas General Plan. Per City of Milpitas requirements, roadway segments were evaluated for cumulative conditions.

Methods

This section describes the methods used to determine the traffic operations for each scenario. It includes the methods used for data collection, level of service calculations, and describes the various level of service standards, as well as the criteria for project impacts.

Data Collection

The data for the study locations were obtained from previous traffic studies, the City of Milpitas, new traffic counts (see appendix A), and the VTA's CMP. The following data were collected from these sources:

- existing traffic volumes,
- lane geometrics,
- signal timing and phasing (for signalized intersections only), and
- average speed (for freeway segments only)

Level of Service Methods

The previously-described data were then used to calculate each study location's level of service (LOS). Level of service is a qualitative measure of traffic operations, ranging from LOS A (free-flow condition) to LOS F (forced-flow conditions). The levels of service at signalized intersections were evaluated using TRAFFIX software with CMP defaults. This method uses the *2000 Highway Capacity Manual* methodology to estimate the average delay per vehicle in seconds. This average delay can then be correlated to a level of service as shown in Table 3 for signalized intersections. The level of service correlation for unsignalized intersections is shown in Table 4. For two-way stop controlled intersections, the level of service is reported for the worst leg of the intersection.

As prescribed in the CMP technical guidelines, the level of service for freeway segments is estimated based on vehicle density. Density is calculated by the following formula:

$$D = V / (N * S)$$

Table 3
Signalized Intersection Level of Service Definitions Based on Delay

Level of Service	Description	Average Control Delay Per Vehicle (seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	10.0 or less
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	Greater than 80.0

Source: Transportation Research Board, *Highway Capacity Manual 2000*, Exhibit 16-2.

where:

- D = density, in vehicles per mile per lane (vpml)
- V = peak hour volume, in vehicles per hour (vph)
- N = number of travel lanes
- S = average travel speed, in miles per hour (mph)

The vehicle density on a segment is correlated to level of service as shown in Table 5. The CMP requires that mixed-flow lanes and auxiliary lanes be analyzed separately from HOV (carpool) lanes. The CMP specifies that a capacity of 2,300 vehicles per hour per lane (vphpl) be used for segments six lanes or wider in both directions and a capacity of 2,200 vphpl be used for segments four lanes wide in both directions.

For cumulative conditions, the traffic operations at the study segments were calculated based on the volume-to-capacity ratio, which can be correlated to a level of service. Table 6 shows the roadway types, capacity assumptions, and LOS thresholds that were used for this analysis.

Table 4
Unsignalized Intersection Level of Service Definitions Based on Delay

Level of Service	Description	Average Stopped Delay Per Vehicle (Sec.)
A	Operations with very low delay occurring with favorable progression .	10.0 or less
B	Operations with low delay occurring with good progression.	10.1 to 15.0
C	Operations with average delays resulting from fair progression.	15.1 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression or high V/C ratios.	25.1 to 35.0
E	Operations with high delay values indicating poor progression and high V/C ratios. This is considered to be the limit of acceptable delay.	35.1 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation and poor progression.	Greater than 50.0

Source: Transportation Research Board, *Highway Capacity Manual 2000*.

Level of Service Standards

For CMP intersections, roadway segments, and freeway segments, the minimum acceptable level of service is LOS E. At intersections and roadway segments in San Jose and Milpitas that are not CMP intersections, the minimum acceptable level of service is LOS D.

The City of San Jose has established a deficiency plan for the 22 CMP intersections in north San Jose. The plan requires that the average delay during the PM peak hour at the 22 intersections be averaged to less than 88 seconds. According to the North San Jose Plan (NSJDP), the maximum delay at an intersection is capped at 150 percent of its cycle length.

Table 5
Freeway Segment Level of Service Definitions Based on Density

Level of Service	Density (vehicles/mile/lane)
A	< 10.0
B	10.1 - 16.0
C	16.1 - 24.0
D	24.1 - 46.0
E	46.1 - 55.0
F	> 55

Table 6
City of Milpitas Roadway Segment LOS

Facility	Lane Capacity	Level of Service					
		A	B	C	D	E	F
Freeway	2,000	1,200	1,400	1,600	1,800	2,000	>2,000
Expressway	1,100	660	770	880	990	1,100	>1,100
Major Arterial	1,000	600	700	800	900	1,000	>1,100
Arterial	900	540	630	720	810	900	>900

Project Impact Criteria

According to the City of Milpitas, as well as the CMP, project impacts at signalized intersections occur when:

1. The level of service at an intersection drops below its LOS standard (LOS E at CMP intersections, and LOS D on city streets) when project traffic is added; or
2. An intersection that is operating worse than its level of service standard under background conditions has an increase in critical delay of four or more seconds **AND** the demand-to-capacity ratio (V/C) is increased by more than .01 when project traffic is added.

The exception to this threshold is when the addition of project traffic reduces the amount of average stopped delay for critical movements (i.e. the change in average stopped delay for critical movements is negative). In this case, the threshold is when the project increases the critical V/C value by .01 or more.

For intersections included in the North San Jose Deficiency Plan, a project would have a significant impact on North San Jose if it caused the 22-intersection average under project conditions to be greater than 88 seconds.

According to CMP guidelines, a project is said to impact a freeway segment if:

- The freeway segment is operating at LOS F under existing conditions, AND
- The number of new trips added to by the project is more than one percent of the freeway capacity.

On roadway segments under cumulative conditions, a project is said to adversely impact a roadway segment if:

- The roadway segment is projected to operate below its LOS standard under the existing general plan and the proposed general plan change is projected to cause an increase in traffic of at least one percent of its capacity. **Or**
- The roadway segment is projected to operate at or better than its LOS standard under the existing general plan and the proposed general plan change is projected to degrade the level of service to less than acceptable levels.

On roadway segments under cumulative conditions, a project is said to benefit a roadway segment if:

- The roadway segment is projected to operate below its LOS standard under the existing general plan and the proposed general plan change is projected to cause a decrease in traffic of at least one percent of its capacity.

Report Organization

The remainder of this report is divided into six chapters. Chapter 2 describes existing conditions in terms of the existing roadway network, transit service, and existing bicycle and pedestrian facilities. Chapter 3 presents roadway operations under background conditions. Chapter 4 describes the method used to estimate project traffic, its impact on the transportation system, and the recommended mitigation measures. Chapter 5 discusses other transportation impacts such as transit, bikes and pedestrians. Chapter 6 discusses the traffic conditions under 2015 conditions. Chapter 7 presents the conclusions of the traffic impact analysis.

2. Existing Conditions

This chapter describes the existing conditions for all of the major transportation facilities in the vicinity of the site, including the roadway network facilities and operations, transit service, and bicycle and pedestrian access.

Roadway Network

Regional access to the project is provided via Interstate 680 (I-680), I-880 and State Route 237 (SR 237). Direct access to the current site is provided via Great Mall Parkway and South Abel Street. Other major facilities in the vicinity include Montague Expressway and South Main Street. These facilities are described below.

I-680 is a north/south freeway traversing the eastern portion of Milpitas. This freeway connects the inland East Bay communities to the north with San Jose to the south. I-680 has six mixed flow lanes north of SR 237 and eight mixed flow lanes south of SR 237. A northbound HOV lane is currently under construction on I-680 north of Calaveras Boulevard. A southbound HOV lane north of Calaveras Boulevard was recently completed.

I-880 is a north/south freeway providing regional access from East Bay cities to San Jose, where it becomes SR 17. Within the City of Milpitas, I-880 is a six-lane freeway. South of Montague Expressway, I-880 has recently been widened to six lanes.

State Route 237/Calaveras Boulevard is an east/west arterial between I-880 and I-680 and generally provides six travel lanes (four on the Union Pacific overcrossing). West of I-880, this facility becomes a freeway with four mixed flow lanes and two High Occupancy Vehicle (HOV) lanes. Calaveras Boulevard accommodates a significant amount of regional through traffic during the peak commute hours. Milpitas staff estimate that approximately 50 percent of the peak hour traffic between I-680 and I-880 is generated outside of Milpitas. The predominate direction of travel is westbound in the morning and eastbound during the afternoon.

Great Mall Parkway is an east/west divided arterial connecting Capital Avenue to I-880. Under existing conditions, this roadway operates within capacity and does not experience significant peak hour congestion except at its intersection with Montague Expressway. West of I-880, Great Mall Parkway becomes Tasman Drive. Light rail construction is underway in the median of Great Mall Parkway. This should be completed in mid-2004.

Montague Expressway is an east/west expressway in southern Milpitas that generally provides six travel lanes. It is operated by the Santa Clara County Roads and Airports Department. The peak direction of travel is westbound in the morning, and eastbound in the evening. This facility also provides HOV lanes both during the AM peak hours in the westbound direction and PM peak hours in the eastbound direction. Montague Expressway is a CMP facility that experiences severe congestion during both commute hours. Recently, studies have been completed to determine the phasing of potential grade separations and the feasibility of widening Montague Expressway to three mixed flow lanes and one HOV lane in each direction.

South Main Street is a north/south collector connecting Montague Expressway to residential areas north of Calaveras Boulevard. This roadway consists of four travel lanes from Montague Expressway to just north of Curtis Avenue, where it transitions to a two lane facility with parking on both sides. Main Street currently operates within capacity, but experiences significant congestion at its intersection with Montague Expressway.

South Abel Street is a north/south arterial beginning at South Main Street and terminating at North Milpitas Boulevard. This facility is signalized at major cross streets, where left-turn pockets are provided. On street parking is generally prohibited, except adjacent to commercial frontage. With the exception of certain movements at major intersections, this facility generally operates within its design capacity.

Pedestrian and Bicycle Facilities

Existing bicycle and pedestrian access to the proposed site is provided by a series of existing sidewalks and bike lanes on Great Mall Parkway, South Abel Street, and South Main Street. Bikes are also permitted to use the shoulder area of Montague Expressway. Figure 3 shows the existing bikeways.

Transit Service

Existing bus service on the surrounding roadway network is provided by the Santa Clara Valley Transportation Authority (VTA). The following routes are located in the project vicinity: routes 33, 46, 47, 59, 66, 70, 71, 77, 104, 140, 180, 321, and AC Transit Route 217. Table 7 summarizes the service frequencies for the closest bus routes.

VTA light rail service was recently extended to Alum Rock Avenue via center lane medians on Tasman Drive, Great Mall Parkway, and Capitol Avenue. A light rail station and bus transfer station have recently been completed near the intersection of Great Mall Parkway and South Main Street. Light rail service is provided on 15-minute headways during peak commute hours. Figure 4 shows the existing transit service.

↑
Not to Scale

LEGEND



= Site



= Ped/Bike Paths



= Bike Routes



= Bike Lanes

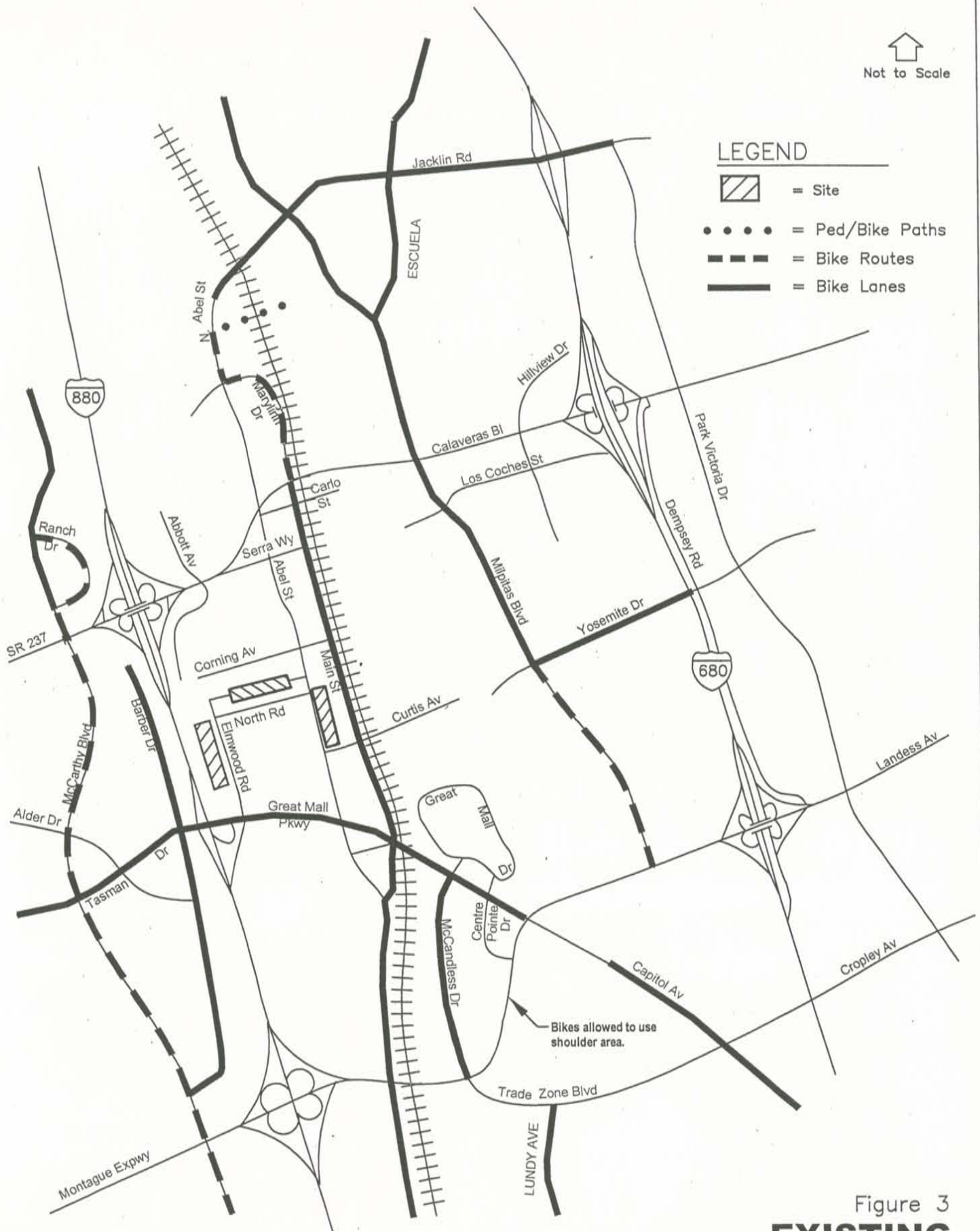










Figure 3
**EXISTING
BIKEWAYS MAP**
Elmwood Residential

Not to Scale

LEGEND

-  = Site
-  = Local Route (Select)
-  = Limited Stop
-  = Express Route
-  = AC Transit
-  = Bus Stop
-  = Light Rail
-  = Light Rail Station

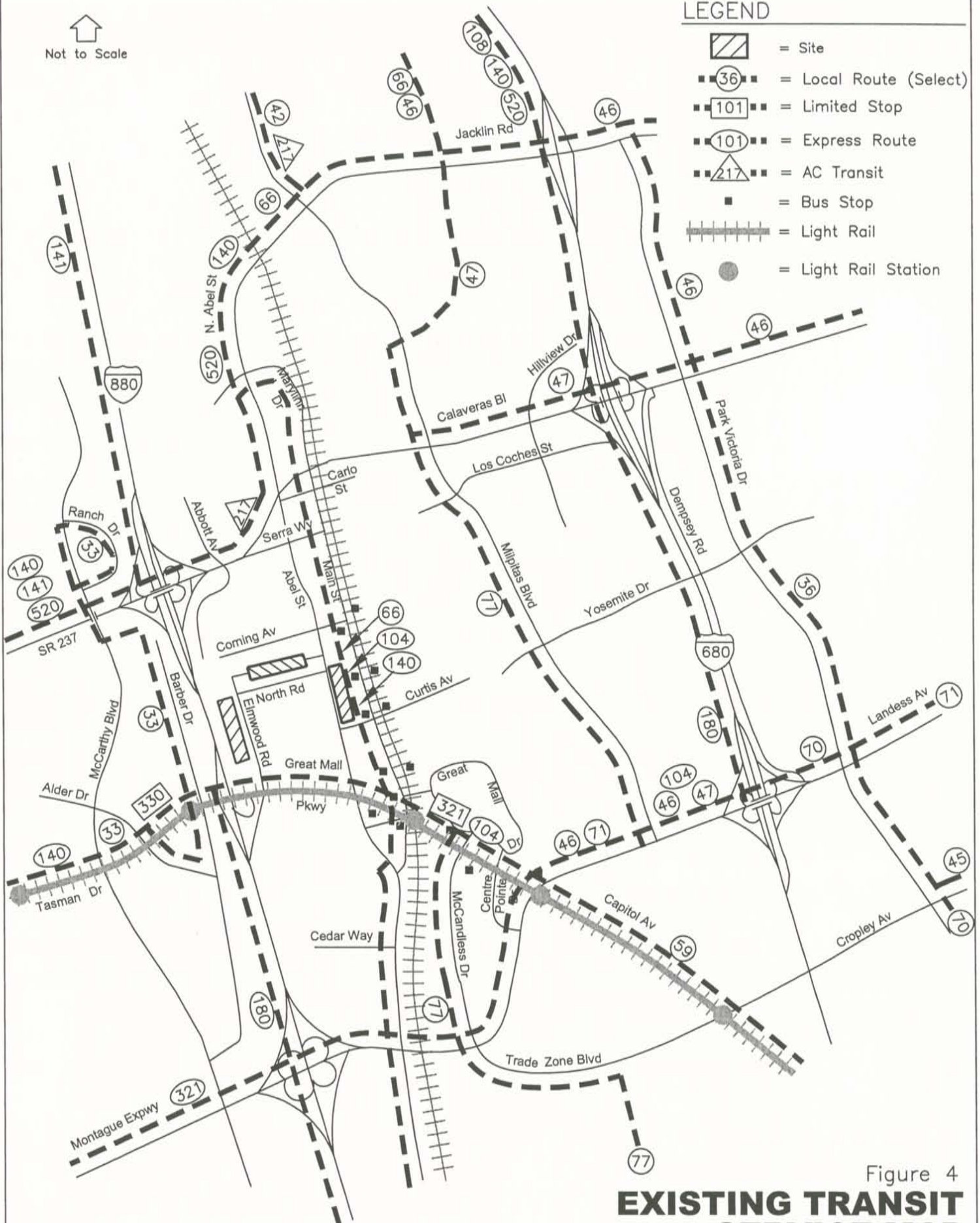


Figure 4
EXISTING TRANSIT SERVICE MAP
 Elwood Residential

Table 7
VTA Transit Service

Line	Route Description	Weekday Hour of Operation	Headway*
Route 77	Milpitas to East San Jose	5:30 AM to 9:30 PM	15 to 30 minutes
Route 66	Milpitas to Downtown San Jose	5:00 AM to 11:30 PM	15 minutes
Route 33	Baypointe LRT Station - Weller & Main	6:30 AM to 9:00 PM	30 minutes

* Headways during commute periods

Existing Intersection Operations

Traffic volumes and vehicular delays on city streets have decreased significantly over the past two years. This is primarily due to increased unemployment rates in Santa Clara County. Under existing 2003 conditions, the levels of service at study intersections are significantly better than those reported in 2000 or 2001. In order to not understate traffic conditions, City of Milpitas staff have requested that traffic counts from 2000 be used to represent "existing traffic conditions." For this reason, the existing conditions stated in this report may not represent actual conditions on the street. Rather, this report presents existing conditions as what could occur should economic conditions return to those of 2000 or 2001. This method insures that traffic conditions with the proposed project are not understated should the economy return to "normal" employment levels.

The operations of the study intersections were evaluated using TRAFFIX software to determine their levels of service. The existing lane configurations used for the calculations are shown in Figure 5. The intersection turn movement volumes are shown in Figures 6 and 7. Table 8 presents the results of the intersection level of service calculations. The TRAFFIX calculation sheets are included in Appendix B. According to the LOS standards discussed in Chapter 1, the following intersections are operating at unacceptable levels of service during one or both peak hours:

- South Main Street and Carlo Street (LOS E during PM peak) (unsignalized)
- South Abbott Avenue and West Calaveras Boulevard (LOS E during AM peak)
- I-880 Northbound Off-ramp and Great Mall Parkway (LOS E during PM peak)
- Alder Drive and Tasman Drive (LOS F during PM peak)
- South Milpitas Boulevard and Montague Expressway* (LOS F during AM peak)
- Great Mall Parkway/East Capitol Avenue and Montague Expressway* (LOS F AM peak)
- South Main Street/Oakland Road and Montague Expressway* (LOS F PM peak)
- McCarthy Boulevard/O'Toole Avenue and Montague Expressway* (LOS F PM peak)

* Denotes CMP intersections

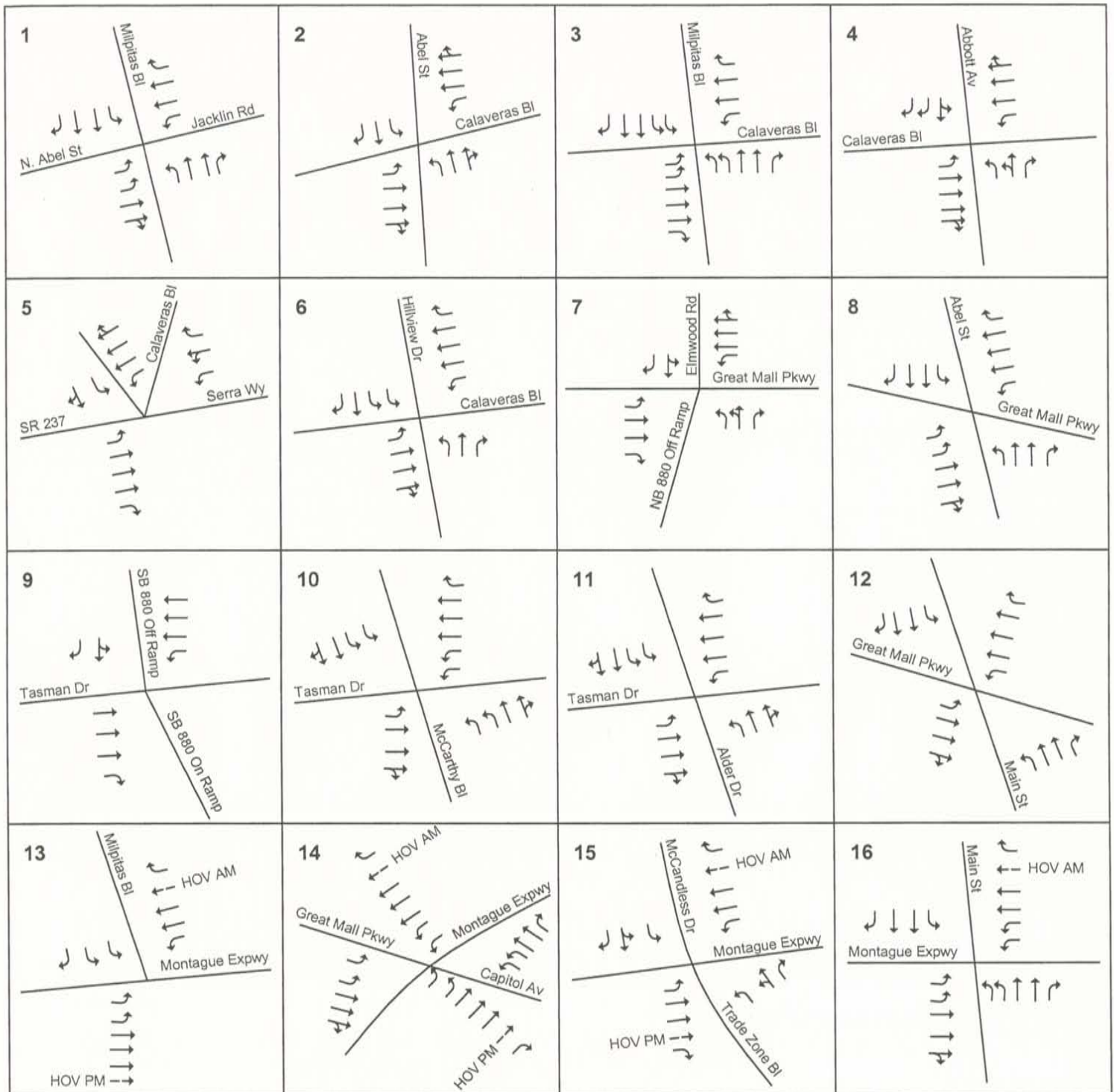
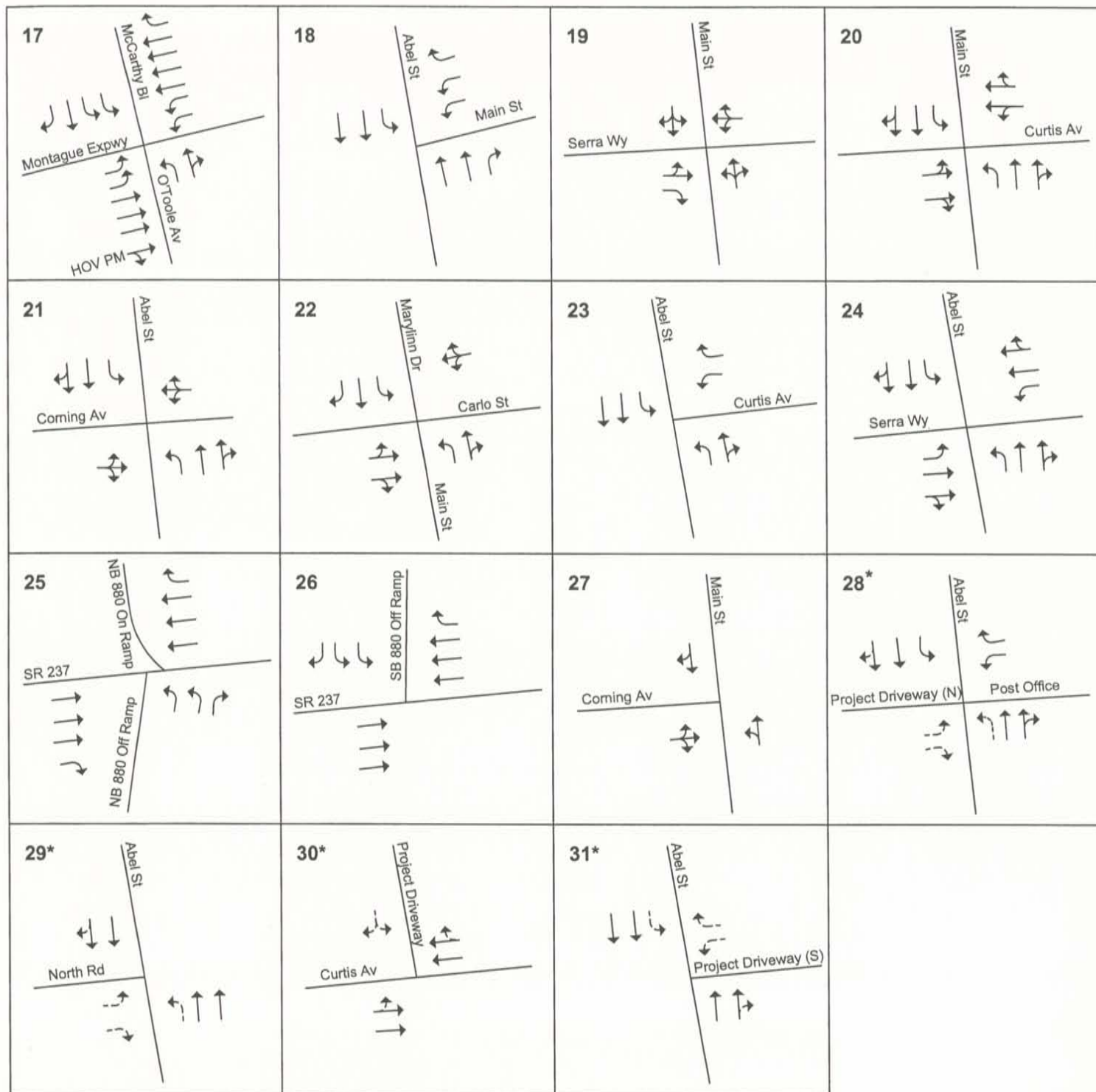


Figure 5

EXISTING LANE GEOMETRIES

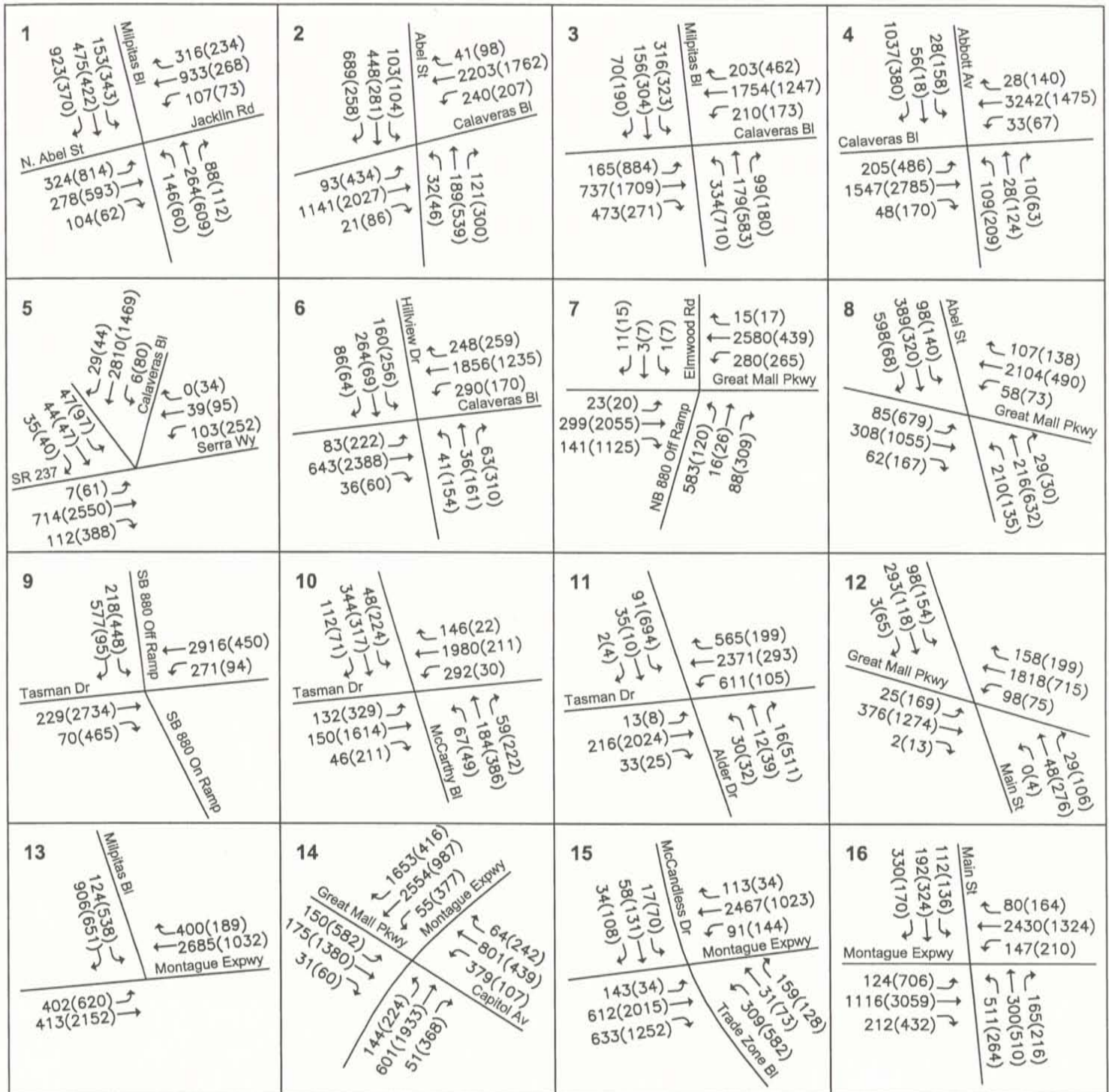
Elmwood Residential



*Note: Dashed lines represent future movements to access the Project Driveways and North Road.

Figure 5

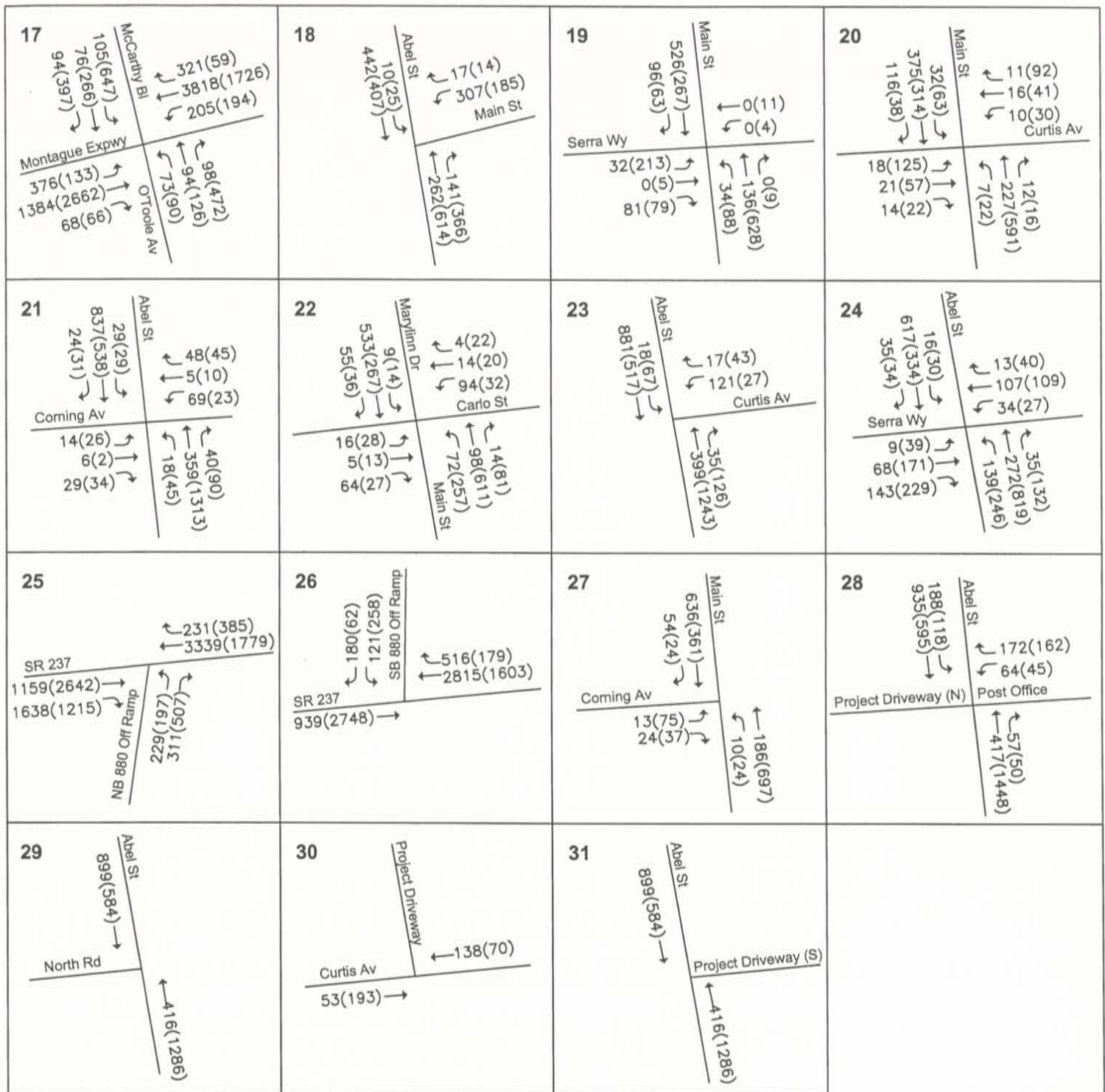
EXISTING LANE GEOMETRIES



LEGEND

XX(X) = AM(PM) Peak Hour Volumes

Figure 6



LEGEND

XX(XX) = AM(PM) Peak Hour Volumes

Figure 6

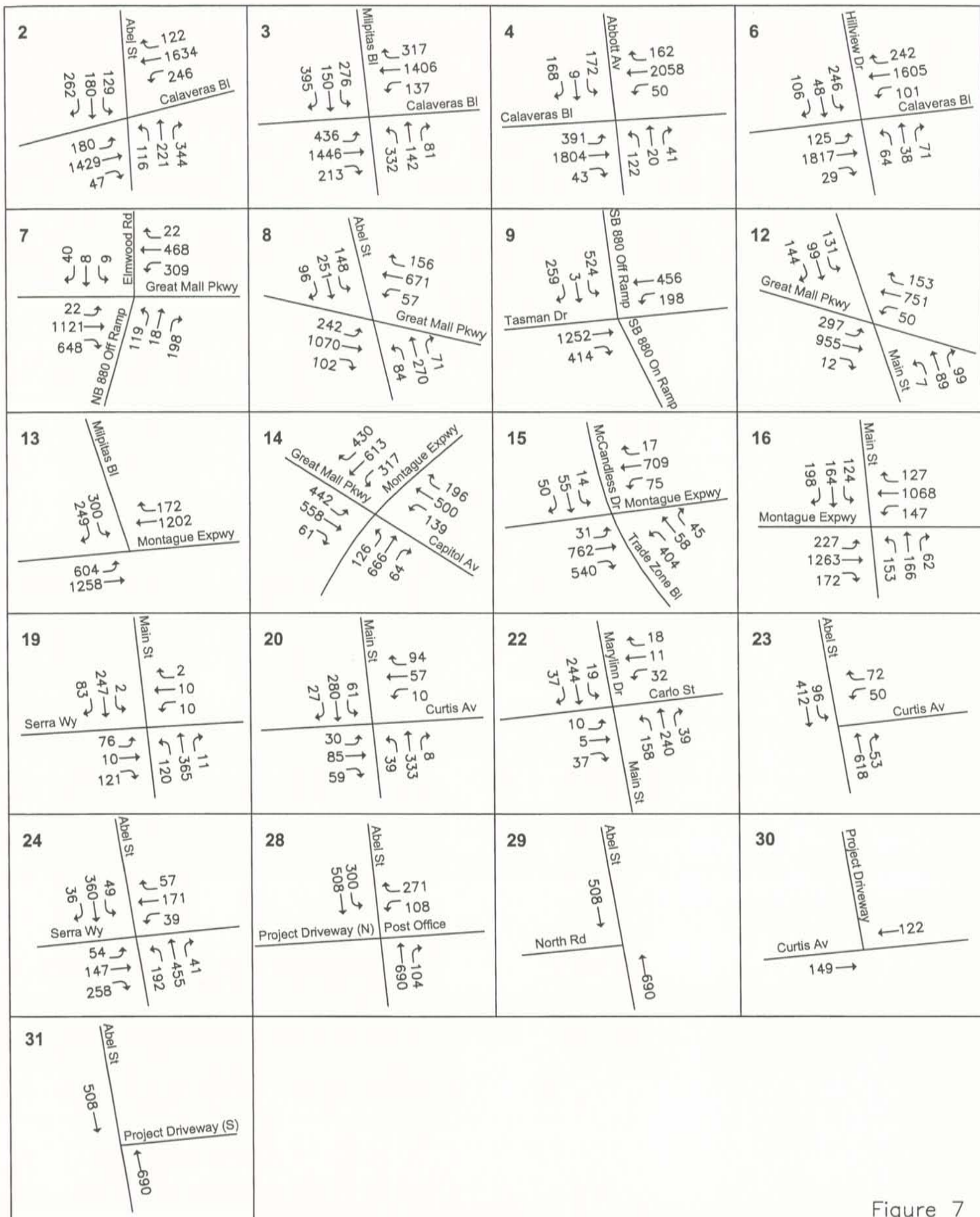


Figure 7

EXISTING SATURDAY TRAFFIC VOLUMES

Table 8
Existing Intersection Levels of Service

Intersection	Peak Hour	Count Date	Ave. Delay	LOS
1. North Milpitas Boulevard and North Abel Street/Jacklin Road	AM	6/6/2001	45.2	D
	PM	6/6/2001	31.8	C
2. South Abel Street and West Calaveras Boulevard*	AM	1/19/2000	47.9	D
	PM	4/26/2000	51.4	D-
	Sat	9/25/1999	44.1	D
3. North/South Milpitas Boulevard and East/West Calaveras Boulevard*	AM	1/27/2000	42.1	D
	PM	4/26/2000	67.0	E
	Sat	3/22/2003	39.5	D
4. South Abbott Avenue and West Calaveras Boulevard	AM	1/27/2000	67.2	E
	PM	9/29/1999	34.8	C-
	Sat	3/22/2003	33.0	C-
5. Serra Way and West Calaveras Boulevard	AM	1/27/2000	15.2	B
	PM	9/28/1999	23.5	C
6. North/South Hillview Drive and East Calaveras Boulevard	AM	3/16/2000	32.5	C-
	PM	3/15/2000	36.8	D+
	Sat	3/22/2003	25.3	C
7. I-880 Northbound Off-ramp and Great Mall Parkway	AM	1/20/2000	33.1	C-
	PM	10/21/1999	58.9	E+
	Sat	9/25/1999	25.9	C
8. South Abel Street and Great Mall Parkway	AM	1/26/2000	42.2	D
	PM	10/12/1999	28.0	C
	Sat	10/16/1999	27.0	C
9. I-880 Southbound Off-ramp and Tasman Drive	AM	1/20/2000	31.4	C
	PM	10/21/1999	25.3	C
	Sat	10/16/1999	30.3	C
10. McCarthy Boulevard and Tasman Drive	AM	7/11/2000	19.8	B-
	PM	7/11/2000	22.4	C+
11. Alder Drive and Tasman Drive	AM	1/25/2000	41.6	D
	PM	10/21/1999	134.9	F
12. South Main Street and Great Mall Parkway	AM	1/20/2000	17.3	B
	PM	10/13/1999	33.0	C-
	Sat	10/23/1999	29.6	C
13. South Milpitas Boulevard and Montague Expressway*	AM	1/19/2000	105.9	F
	PM	4/26/2000	39.9	D
	Sat	10/23/1999	31.5	C

* Denotes CMP intersection.

Table 8 (cont.)
Existing Intersection Levels of Service

Intersection	Peak Hour	Count Date	Ave. Delay	LOS
14. Great Mall Parkway/East Capitol Avenue and Montague Expressway*	AM	1/20/2000	97.5	F
	PM	4/26/2000	71.8	E
	Sat	10/9/1999	43.7	D
15. McCandless Drive/Trade Zone Boulevard and Montague Expressway*	AM	1/20/2000	34.9	C-
	PM	3/16/2000	75.8	E-
	Sat	10/9/1999	36.2	D+
16. South Main Street/Oakland Road and Montague Expressway*	AM	1/19/2000	68.1	E
	PM	4/26/2000	88.8	F
	Sat	10/23/1999	48.2	D
17. McCarthy Boulevard/O'Toole Avenue and Montague Expressway*	AM	10/7/1999	38.8	D+
	PM	3/16/2000	122.6	F
18. South Abel Street and South Main Street	AM	1/27/2000	12.4	B
	PM	9/29/1999	8.3	A
19. South Main Street and Serra Way	AM	1/20/2000	6.5	A
	PM	10/4/1999	10.6	B+
	Sat	10/9/1999	8.3	A
20. South Main Street and West Curtis Avenue	AM	1/19/2000	16.9	B
	PM	10/14/1999	19.3	B-
	Sat	10/9/1999	18.5	B-
21. South Abel Street and Corning Avenue	AM	1/25/2000	12.4	B
	PM	1/25/2000	14.6	B
22. South Main Street and Carlo Street (Unsignalized)	AM	10/13/1999	21.7	C
	PM	10/13/1999	37.9	E
	Sat	10/9/1999	10.8	B
23. South Abel Street and West Curtis Avenue	AM	1/20/2000	9.5	A
	PM	10/7/1999	9.3	A
	Sat	10/9/1999	8.4	A
24. South Abel Street and West Serra Way	AM	1/20/2000	21.4	C+
	PM	9/28/1999	23.6	C
	Sat	10/9/1999	24.7	C
25. I-880 Northbound Off-ramp and West Calaveras Boulevard	AM	8/1/2002	17.5	B
	PM	8/1/2002	25.2	C
26. I-880 Southbound Off-ramp and West Calaveras Boulevard	AM	9/16/2003	9.2	A
	PM	9/16/2003	8.4	A
27. South Main Street and Corning Avenue (Unsignalized) /a/	AM	1/25/2000	14.9	B
	PM	1/25/2000	24.9	C

/a/ Average delay and level of service reflects worst intersection leg.

* Denotes CMP intersection.

Existing Freeway Operations

Table 9 presents the results of the freeway level of service calculations. According to the LOS standards discussed in Chapter 1, the following freeway segments are operating at unacceptable levels of service during one or both peak hours:

- I-880, Montague to Brokaw, Southbound (LOS F during PM peak)
- I-880, Montague to Tasman, Northbound (LOS F during PM peak)

Table 9

Freeway Segment Levels of Service - Existing Conditions

Freeway	Segment	Direction	Peak Hour	Ave. Speed/a/	Mixed-Flow Lanes			Density	LOS
					# of Lanes	Volume/a/	Density		
I-880	SR 237 to Tasman Drive	SB	AM	66	3.5	4,750	20.6	C	
			PM	67	3.5	3,620	15.4	B	
I-880	Tasman Drive to Montague Expwy	SB	AM	67	3.5	4,620	19.7	C	
			PM	50	3.5	6,600	37.7	D	
I-880	Montague Expwy to Brokaw Road /b/	SB	AM	64	3	4,100	21.4	C	
			PM	13	3	2,680	68.7	F	
I-880	Montague Expwy to Tasman Drive	NB	AM	67	3.5	4,020	17.1	B	
			PM	11	3.5	3,630	94.3	F	
I-880	Brokaw Road to Montague Expwy /b/	NB	AM	62	3	4,340	23.3	C	
			PM	25	3	3,600	48.0	E	
I-680	Capitol Avenue to Montague Expressway	NB	AM	64	4	8,450	33.0	D	
			PM	64	4	8,450	33.0	D	

/a/ Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Database, 2002.

/b/ Denotes planned improvement.

3.

Background Conditions

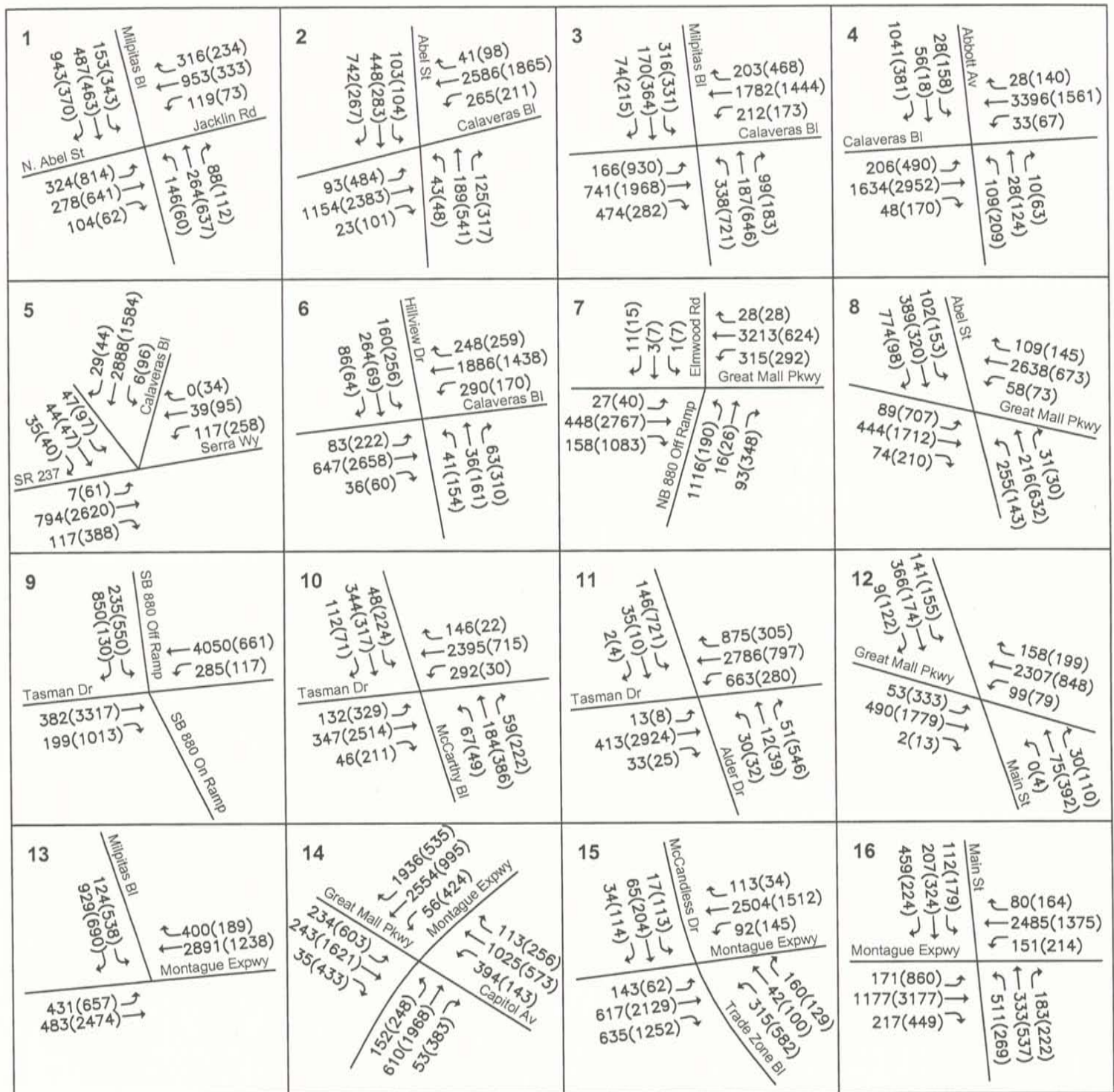
This chapter describes background traffic conditions. Background conditions are defined as conditions just prior to completion of the proposed development. Traffic volumes for background conditions comprise volumes from existing traffic counts plus traffic generated by other approved developments in the vicinity of the site. The study of freeway segments under background conditions is not required by the CMP.

Background Traffic Volumes & Roadway Network

It is assumed in this analysis that the future near-term roadway network under background conditions would be the same as the existing roadway network, with two exceptions.

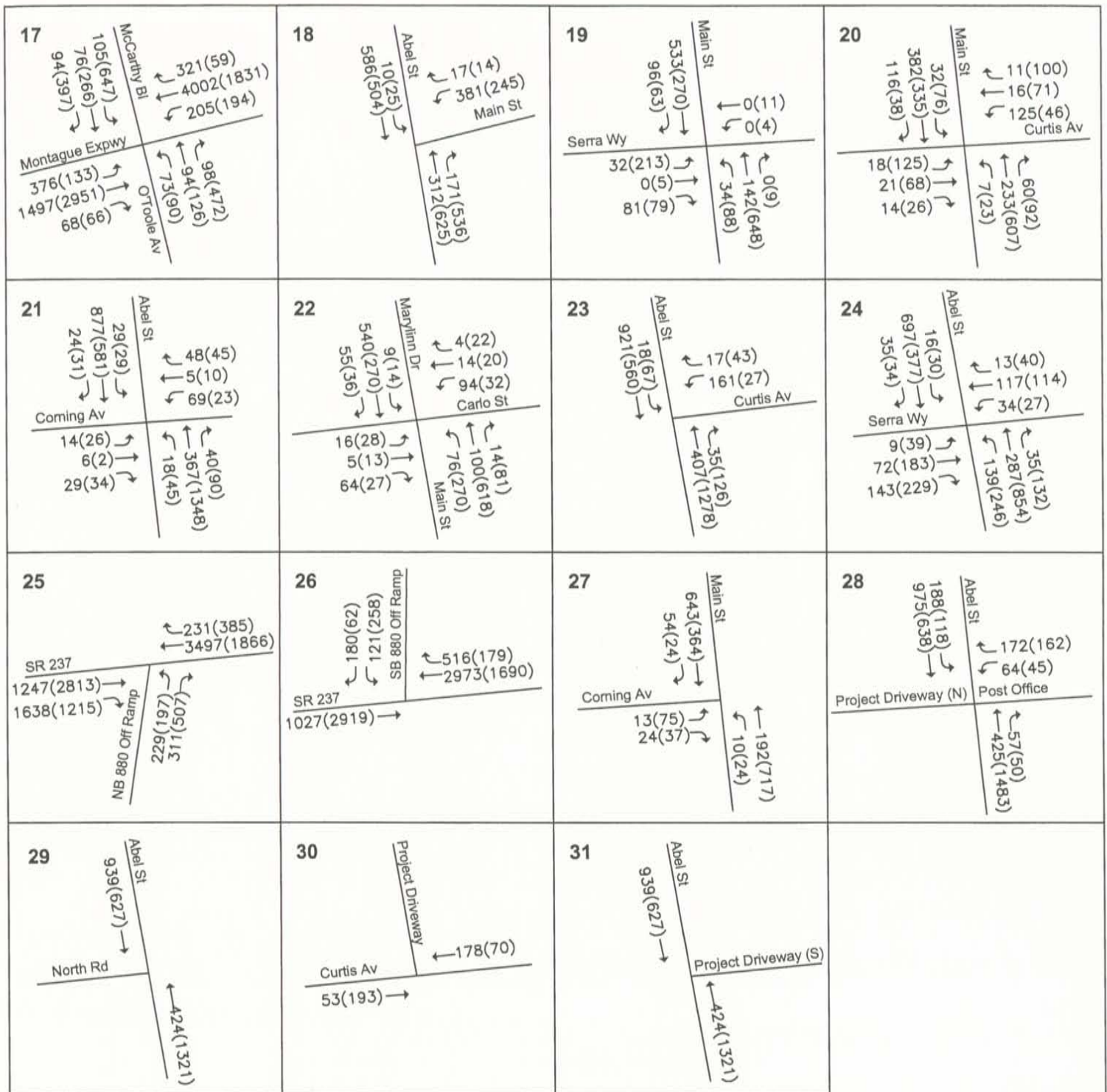
- **Montague Expressway and Milpitas Boulevard.** At this intersection, a funded improvement will add one travel lane in each direction and provide HOV lanes 24 hours per day. This improvement is currently under design. Construction will begin in late 2004.
- **I-880 Braided Ramps.** Braided ramps are currently under construction southbound on I-880 between Calaveras Boulevard and Tasman Drive. The ramps will allow traffic on McCarthy Boulevard at SR 237 to access southbound I-880, versus having to access I-880 via Tasman Drive. This project will not affect the lane configuration at the intersection of Tasman Drive and the I-880 Southbound ramps.

Background peak-hour traffic volumes were calculated by adding to existing volumes the estimated traffic from approved but not yet constructed developments. The added traffic from approved but not yet constructed developments was supplied by the City of Milpitas and based on the approved projects scenario contained in the *Milpitas Midtown Specific Plan*. This included projects approved in San Jose and Milpitas. Background traffic volumes are shown on Figure 8. None of the approved projects would have a significant affect on Saturday conditions. For this reason, background traffic volumes for the Saturday midday peak period were assumed unchanged from the existing condition.



LEGEND

XX(XX) = AM(PM) Peak Hour Volumes



LEGEND

XX(XX) = AM(PM) Peak Hour Volumes

Intersection Operations

Level of service calculations were conducted to evaluate the operating levels of the key intersections under background conditions. These calculations were performed using background volumes and roadway network assumptions. The results are shown on Table 10. The TRAFFIX calculation sheets are included in Appendix B. According to City of Milpitas and CMP guidelines, the following intersections will operate at unacceptable levels during one or both peak hours:

- Calaveras Boulevard and Milpitas Boulevard* (LOS F during PM peak)
- South Abbott Avenue and West Calaveras Boulevard (LOS E during AM peak)
- I-880 Northbound Off-ramp and Great Mall Parkway (LOS E or F during AM & PM peak)
- South Abel Street and Great Mall Parkway (LOS F during PM peak)
- I-880 Southbound Off-ramp and Tasman Drive (LOS F AM peak)
- Alder Drive and Tasman Drive (LOS F during PM peak)
- Great Mall Parkway/East Capitol Avenue and Montague Expressway* (LOS F AM & PM peak)
- McCandless Drive/Trade Zone Boulevard and Montague Expressway (LOS F PM peak)
- South Main Street/Oakland Road and Montague Expressway* (LOS F AM & PM peak)
- McCarthy Boulevard/O'Toole Avenue and Montague Expressway* (LOS F PM peak)
- South Main Street and Carlo Street (LOS E during PM peak) (unsignalized)

* Denotes CMP intersections

The remaining study intersections are projected to operate at acceptable levels during both peak hours of operation.

Table 10

Background Intersection Levels of Service

Intersection	Peak Hour	Count Date	Existing		Background	
			Ave. Delay	LOS	Ave. Delay	LOS
1. North Milpitas Boulevard and North Abel Street/Jacklin Road	AM	6/6/2001	45.2	D	48.2	D
	PM	6/6/2001	31.8	C	32.8	C-
2. South Abel Street and West Calaveras Boulevard*	AM	1/19/2000	47.9	D	52.7	D-
	PM	4/26/2000	51.4	D-	57.8	E+
3. North/South Milpitas Boulevard and East/West Calaveras Boulevard*	AM	1/27/2000	42.1	D	42.5	D
	PM	4/26/2000	67.0	E	82.0	F
4. South Abbott Avenue and West Calaveras Boulevard	AM	1/27/2000	67.2	E	76.1	E-
	PM	9/29/1999	34.8	C-	35.0	D+
5. Serra Way and West Calaveras Boulevard	AM	1/27/2000	15.2	B	15.6	B
	PM	9/28/1999	23.5	C	24.2	C
6. North/South Hillview Drive and East Calaveras Boulevard	AM	3/16/2000	32.5	C-	32.4	C-
	PM	3/15/2000	36.8	D+	36.9	D+
7. I-880 Northbound Off-ramp and Great Mall Parkway	AM	1/20/2000	33.1	C-	92.2	F
	PM	10/21/1999	58.9	E+	77.6	E-
8. South Abel Street and Great Mall Parkway	AM	1/26/2000	42.2	D	98.4	F
	PM	10/12/1999	28.0	C	29.3	C
9. I-880 Southbound Off-ramp and Tasman Drive	AM	1/20/2000	31.4	C	143.4	F
	PM	10/21/1999	25.3	C	54.5	D-
10. McCarthy Boulevard and Tasman Drive	AM	7/11/2000	19.8	B-	24.9	C
	PM	7/11/2000	22.4	C+	30.3	C
11. Alder Drive and Tasman Drive	AM	1/25/2000	41.6	D	20.2	C+
	PM	10/21/1999	134.9	F	182.1	F
12. South Main Street and Great Mall Parkway	AM	1/20/2000	17.3	B	19.9	B-
	PM	10/13/1999	33.0	C-	34.5	C-
13. South Milpitas Boulevard and Montague Expressway*	AM	1/19/2000	105.9	F	62.9	E
	PM	4/26/2000	39.9	D	41.0	D

* Denotes CMP intersection.

Table 10 (cont.)
Background Intersection Levels of Service

Intersection	Peak Hour	Count Date	Existing		Background	
			Ave. Delay	LOS	Ave. Delay	LOS
14. Great Mall Parkway/East Capitol Avenue and Montague Expressway*	AM PM	1/20/2000 4/26/2000	97.5 71.8	F E	157.2 119.8	F F
15. McCandless Drive/Trade Zone Boulevard and Montague Expressway*	AM PM	1/20/2000 3/16/2000	34.9 75.8	C- E-	35.6 96.5	D+ F
16. South Main Street/Oakland Road and Montague Expressway*	AM PM	1/19/2000 4/26/2000	68.1 88.8	E F	90.0 103.6	F F
17. McCarthy Boulevard/O'Toole Avenue and Montague Expressway*	AM PM	10/7/1999 3/16/2000	38.8 122.6	D+ F	39.8 119.2	D F
18. South Abel Street and South Main Street	AM PM	1/27/2000 9/29/1999	12.4 8.3	B A	13.2 8.9	B A
19. South Main Street and Serra Way	AM PM	1/20/2000 10/4/1999	6.5 10.6	A B+	6.5 10.7	A B+
20. South Main Street and West Curtis Avenue	AM PM	1/19/2000 10/14/1999	16.9 19.3	B B-	18.3 20.0	B- C+
21. South Abel Street and Corning Avenue	AM PM	1/25/2000 1/25/2000	12.4 14.6	B B	12.5 15.0	B B
22. South Main Street and Carlo Street (Unsignalized)	AM PM	10/13/1999 10/13/1999	21.7 37.9	C E	22.6 39.5	C E
23. South Abel Street and West Curtis Avenue	AM PM	1/20/2000 10/7/1999	9.5 9.3	A A	11.1 9.3	B+ A
24. South Abel Street and West Serra Way	AM PM	1/20/2000 9/28/1999	21.4 23.6	C+ C	21.2 24.6	C+ C
25. I-880 Northbound Off-ramp and West Calaveras Boulevard	AM PM	8/1/2002 8/1/2002	17.5 25.2	B C	17.9 25.4	B C
26. I-880 Southbound Off-ramp and West Calaveras Boulevard	AM PM	9/16/2003 9/16/2003	9.2 8.4	A A	9.1 8.3	A A
27. South Main Street and Corning Avenue (Unsignalized) /a/	AM PM	1/25/2000 1/25/2000	14.9 24.9	B C	15.0 25.8	B D

/a/ Average delay and level of service reflects worst intersection leg.

* Denotes CMP intersection.

4.

Project Impacts and Recommendations

The impacts of the proposed project are discussed in this chapter. First, the method used to estimate the amount of traffic added to the roadway system by the project is described. Then, individual intersections are analyzed under project conditions. Project conditions are defined as background volumes plus the additional traffic generated by the proposed project. Under project conditions, the roadway network would be the same as under background conditions.

Project Traffic Estimates

The amount of traffic associated with a development is estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In the first step, the amount of traffic entering and exiting the site is estimated on a peak hour basis. In the second step, the directions of approach and departure of project traffic are estimated. In the third step, the trips are assigned to specific streets and intersections.

The amount of traffic generated by the proposed project was estimated by applying the appropriate trip generation rates to the size of the development. At the request of Milpitas staff, the trip generation rates used were those published by the San Diego Association of Governments (SANDAG) for single family, condominium/townhouses, community shopping center, and automobile sales & repair uses. Relative to these land uses, the peak hour traffic generated by the proposed one-acre city park would be negligible, with a significant percentage of internal project trips. Therefore, no additional trip generation was assumed for the park.

Pass-by reductions were applied to the shopping center use for only the PM peak hour in accordance with SANDAG recommended guidelines. The project's trip generation estimates are presented in Table 11. Generally, the shopping center use generates twice the traffic of the auto center use during the AM, PM, and Saturday midday peak hours.

Table 11

Trip Generation Estimates

Use	Size ³	Daily Trips	AM Peak Hour						PM Peak Hour						Saturday Peak Hour																	
			Rate ¹			Trips			Rate ¹			Trips			Rate ²			Trips														
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total												
Scenario 1																																
Residential																																
Single Family Homes	115	1150	0.24	0.56	0.80	28	64	92	0.70	0.30	1.00	81	34	115	0.46	0.46	0.92	53	53	106												
Townhomes	292	2336	0.13	0.51	0.64	37	150	187	0.56	0.24	0.80	163	70	233	0.35	0.35	0.69	101	101	202												
Condominiums	315	2520	0.13	0.51	0.64	41	161	202	0.56	0.24	0.80	176	76	252	0.35	0.35	0.70	110	110	220												
Retail																																
Auto Center	180	9000	1.75	0.75	2.50	315	135	450	1.60	2.40	4.00	288	432	720	2.12	2.12	4.24	382	382	764												
Scenario 1 Total			15,006			421			510			931			708			612			1320			646			646			1292		
Scenario 2																																
Residential																																
Single Family Homes	115	1150	0.24	0.56	0.80	28	64	92	0.70	0.30	1.00	81	34	115	0.46	0.46	0.92	53	53	106												
Townhomes	292	2336	0.13	0.51	0.64	37	150	187	0.56	0.24	0.80	163	70	233	0.35	0.35	0.69	101	101	202												
Condominiums	315	2520	0.13	0.51	0.64	41	161	202	0.56	0.24	0.80	176	76	252	0.35	0.35	0.70	110	110	220												
Retail																																
Shopping Center	240	16800	1.26	0.84	2.10	302	202	504	3.50	3.50	7.00	840	840	1680	4.65	4.65	9.30	1116	1116	2232												
Passby (PM Peak Hr.) ⁴												-168	-168	-336																		
Scenario 2 Total			22,806			408			577			985			1092			852			1944			1380			1380			2760		

1) Based on San Diego Association of Governments (SANDAG) Traffic Generation Rates (1998).

2) Based on a ratio of rates from San Diego Association of Governments (SANDAG) Traffic Generation Rates (1998).

3) Residential sizes are in units. Retail sizes are in KSF.

4) A 20% passby was assumed for the shopping center during the PM peak hour per SANDAG.

A VTA light rail station operates along Great Mall Parkway, which will increase the probability that the residential occupants of the proposed project would use transit. However, the light rail station would not be located within 2,000-foot walk of the residential project. Therefore, per CMP technical guidelines, no trip deduction was assumed.

The proposed project's trip distribution pattern was estimated based on a variety of factors, including:

- the nature of the proposed use,
- the relative location of complementary land uses,
- previous traffic impact analyses conducted in the area,
- select zone analyses using the 2015 Milpitas sub-area travel demand forecast (TDF) model, and
- select zone analyses using the 2025 BART TDF model.

Because each land use type will attract different types of trips, separate trip distributions were developed for each land use for each study period (AM, PM, Saturday midday). For example, residential land uses tend to generate large numbers of trips to/from employment areas during the weekday AM and PM commute hours, but generate more trips to/from retail areas during weekend peak hours. Conversely, retail uses generate large numbers of home based trips during the AM and Saturday midday peak periods, but also attract employment trips during the PM peak hour. The trip distribution pattern for each land use and study period is shown graphically on Figures 9 through 12. The trips generated by the proposed project were then assigned to the roadway network based on this directional distribution (see Figures 13 through 16). Approximately 144 AM peak hour and 183 PM peak hour residential trips would use Elmwood Road to access the public street network.

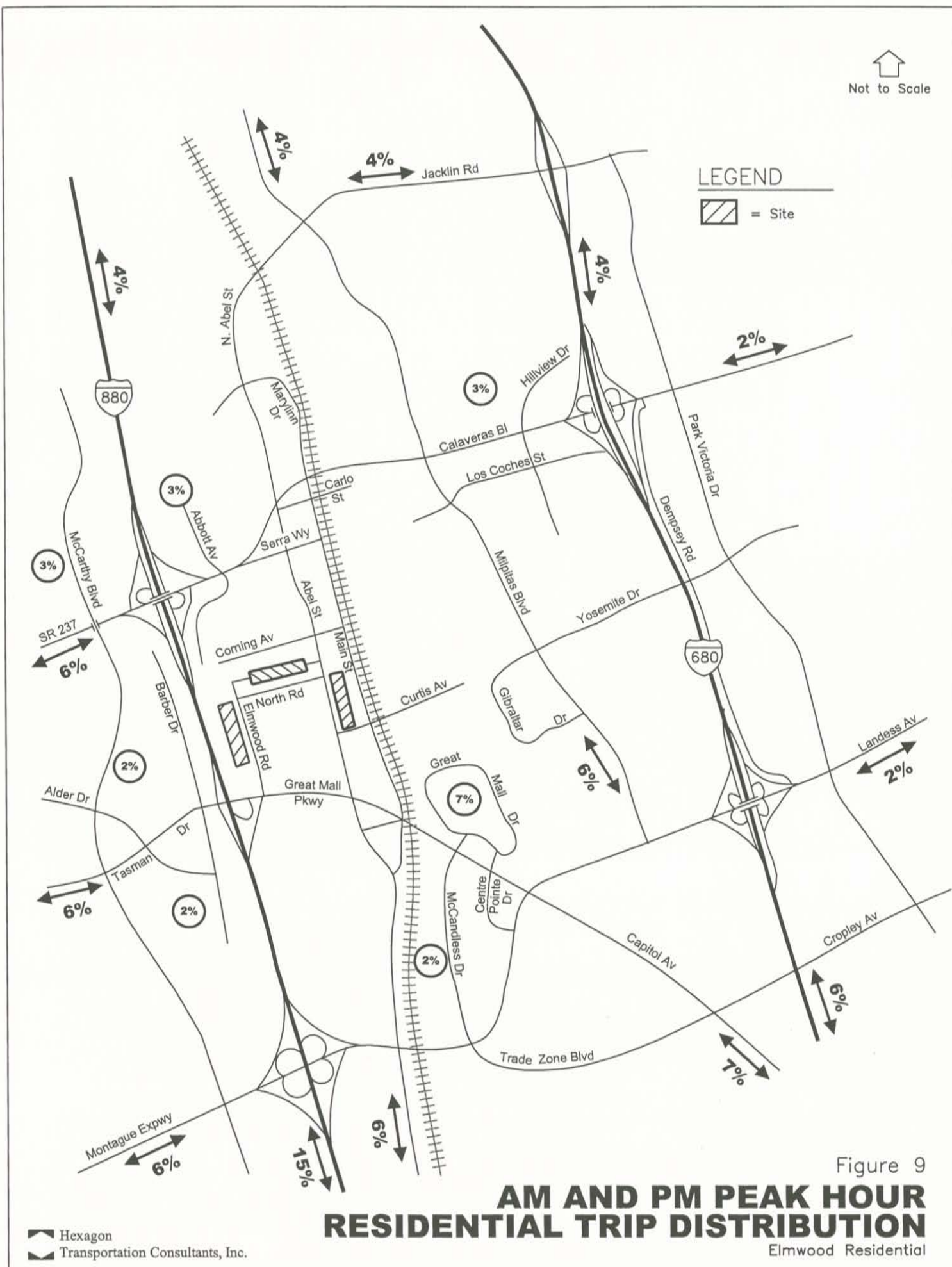
Intersection Impacts

It was assumed that the intersection of the Project Driveway (north)/Post Office Driveway and Abel Street would be signalized as part of the proposed project. Aside from this improvement, the roadway network under the project conditions was assumed to be the same as that of the background conditions.

Project traffic volumes were calculated by adding peak-hour, project-generated traffic to the background volumes (see Figures 17 through 20). Intersection level of service calculations were conducted to evaluate the impacts of the proposed project at the key intersections. Background conditions served as a base from which the impacts were evaluated. The results of the level of service calculations are shown in Tables 12 and 13, for scenarios 1 and 2, respectively. Project impacts are denoted in the tables with a box. The level of service calculation sheets are included in Appendix B. According to the definitions provided in Chapter 1, the proposed project would create an adverse significant impact at the following study intersections under scenario 1:


- I-880 Northbound Off-ramp and Great Mall Parkway
- South Abel Street and Great Mall Parkway
- I-880 Southbound Off-ramp and Tasman Drive
- Alder Drive and Tasman Drive
- Calaveras Boulevard and Milpitas Boulevard*
- Great Mall Parkway/East Capitol Avenue and Montague Expressway*
- South Main Street and Carlo Street (unsignalized)
- South Main Street and Corning Avenue (unsignalized)

*Denotes CMP intersections.



Not to Scale

LEGEND

 = Site

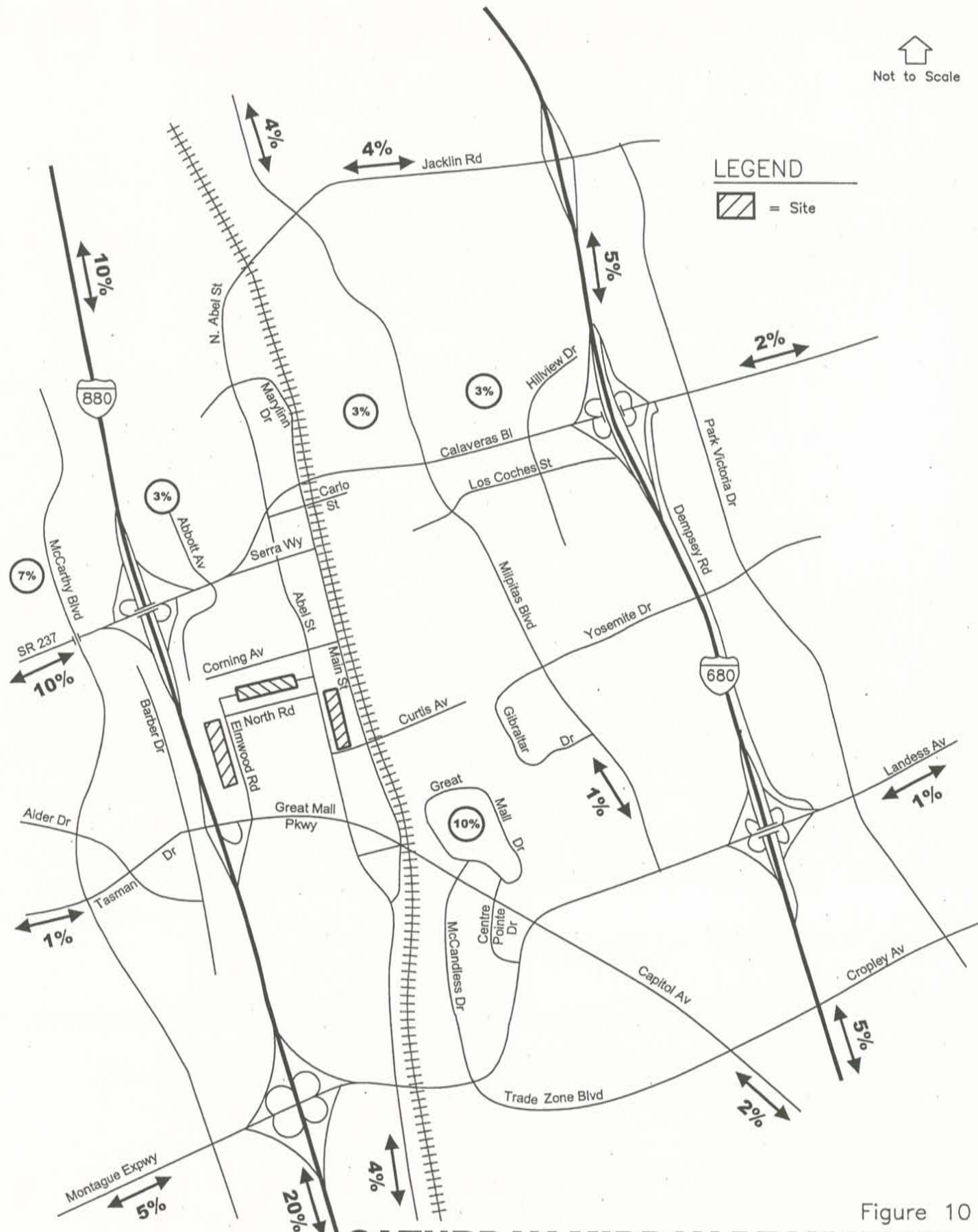


Figure 10

SATURDAY MIDDAY PEAK HOUR RESIDENTIAL TRIP DISTRIBUTION

 Hexagon
 Transportation Consultants, Inc.

Elmwood Residential

Not to Scale

LEGEND

 = Site

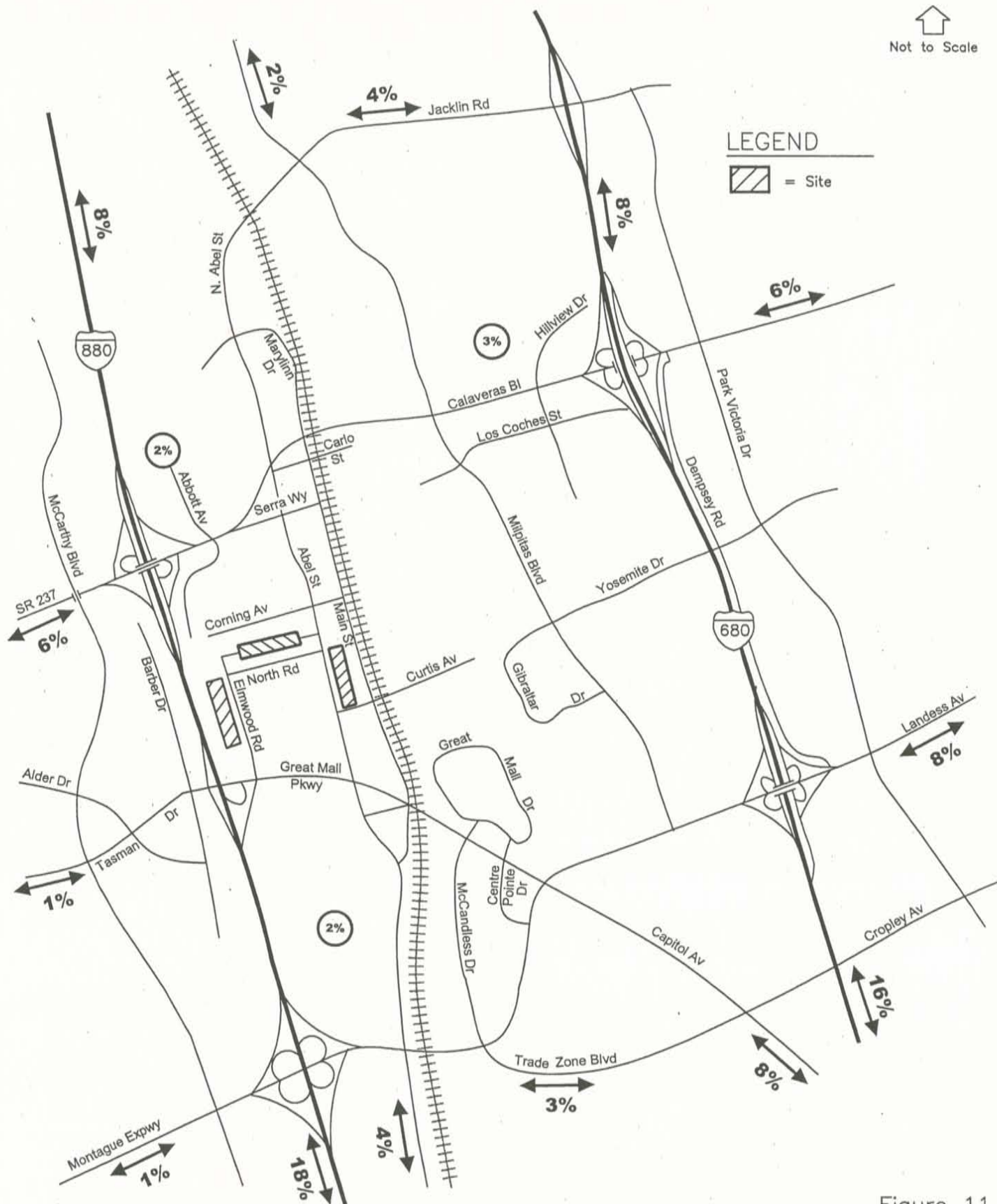
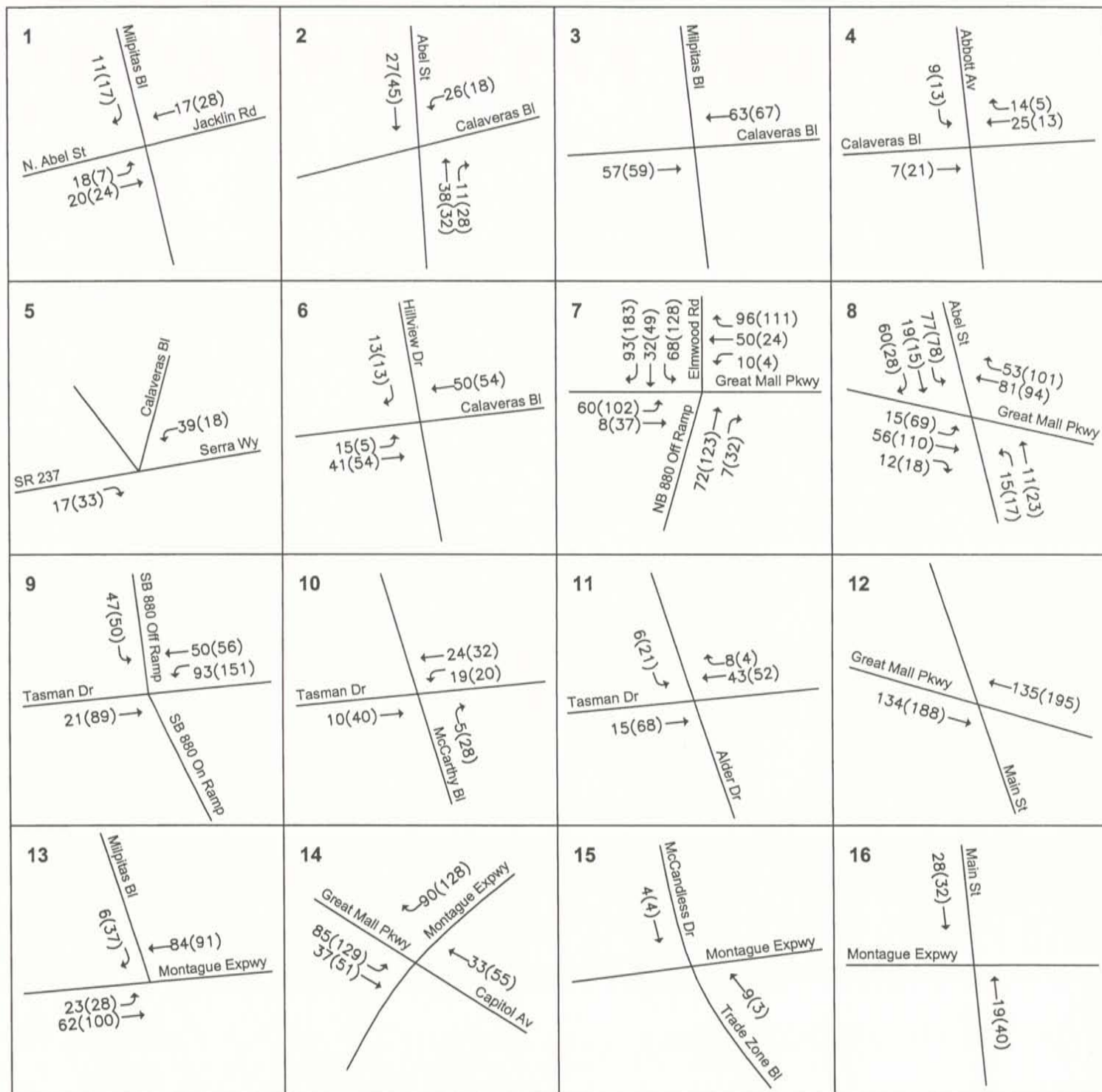


Figure 11

AM AND SATURDAY MIDDAY PEAK HOUR RETAIL TRIP DISTRIBUTION

 Hexagon
 Transportation Consultants, Inc.

Elmwood Residential

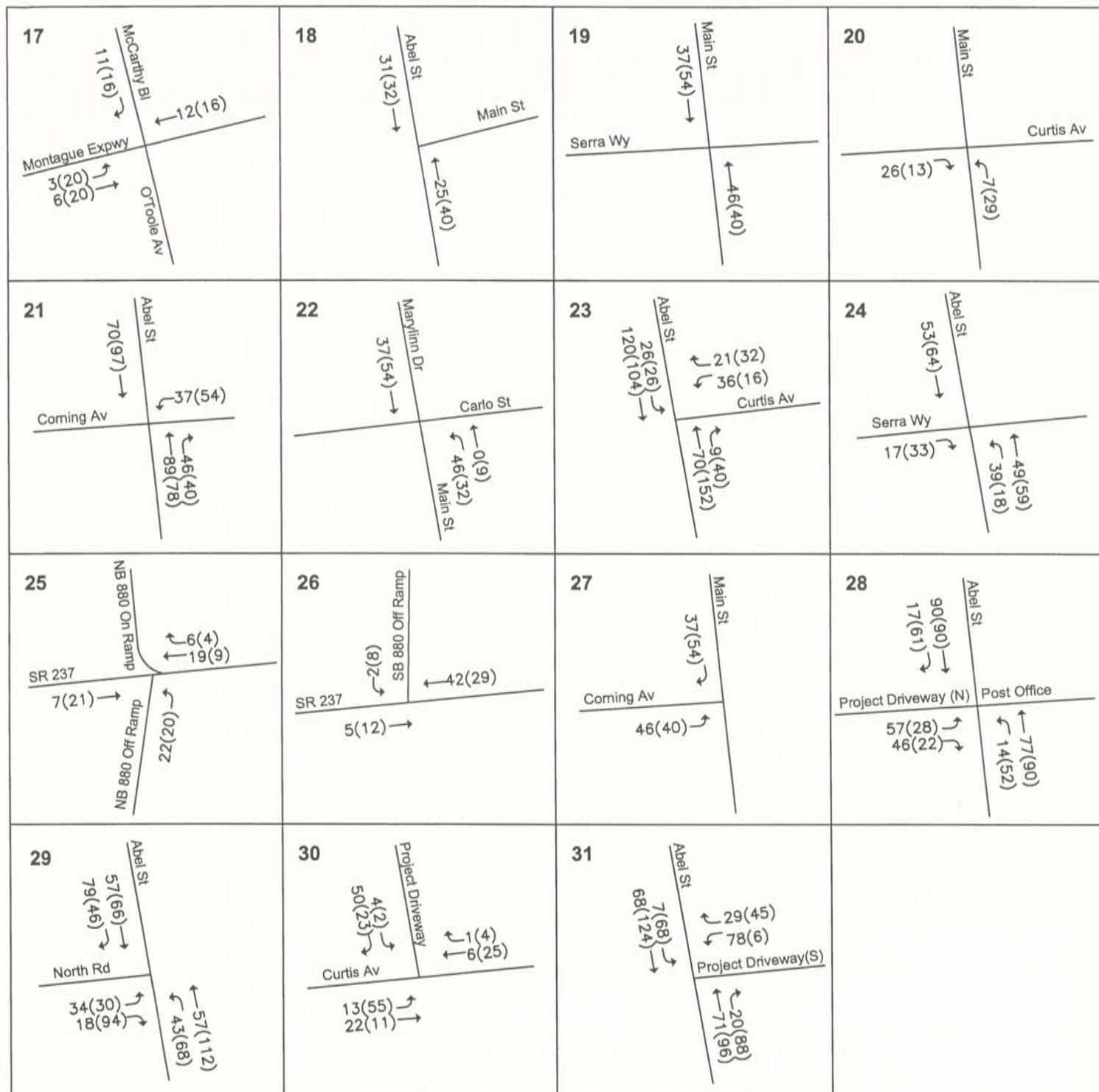


LEGEND

XX(XX) = AM(PM) Peak Hour Volumes

Figure 13

WEEKDAY PEAK-HOUR PROJECT TRIP ASSIGNMENT SCENARIO 1



LEGEND

XX(XX) = AM(PM) Peak Hour Volumes

Figure 13

WEEKDAY PEAK-HOUR PROJECT TRIP ASSIGNMENT SCENARIO 1

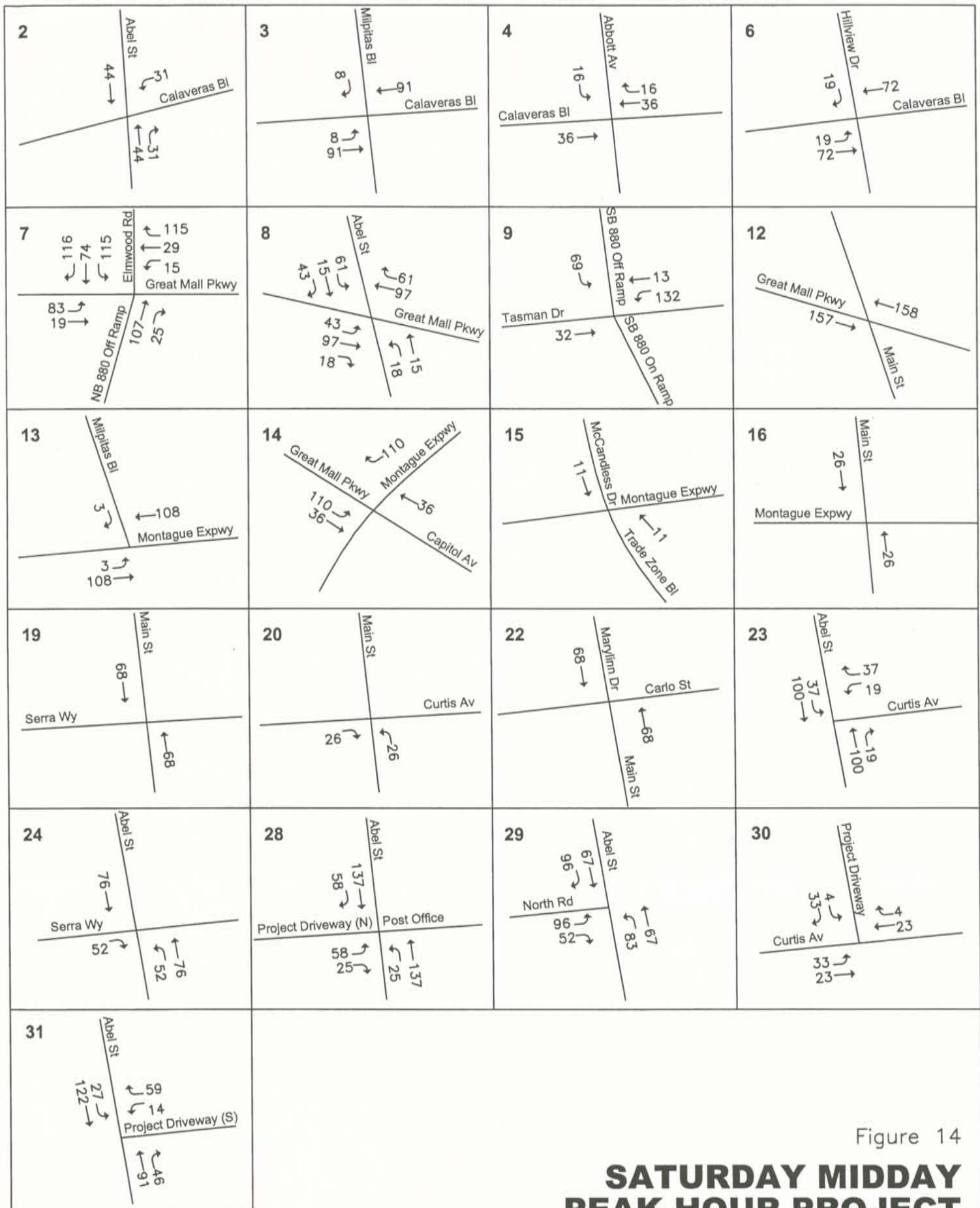
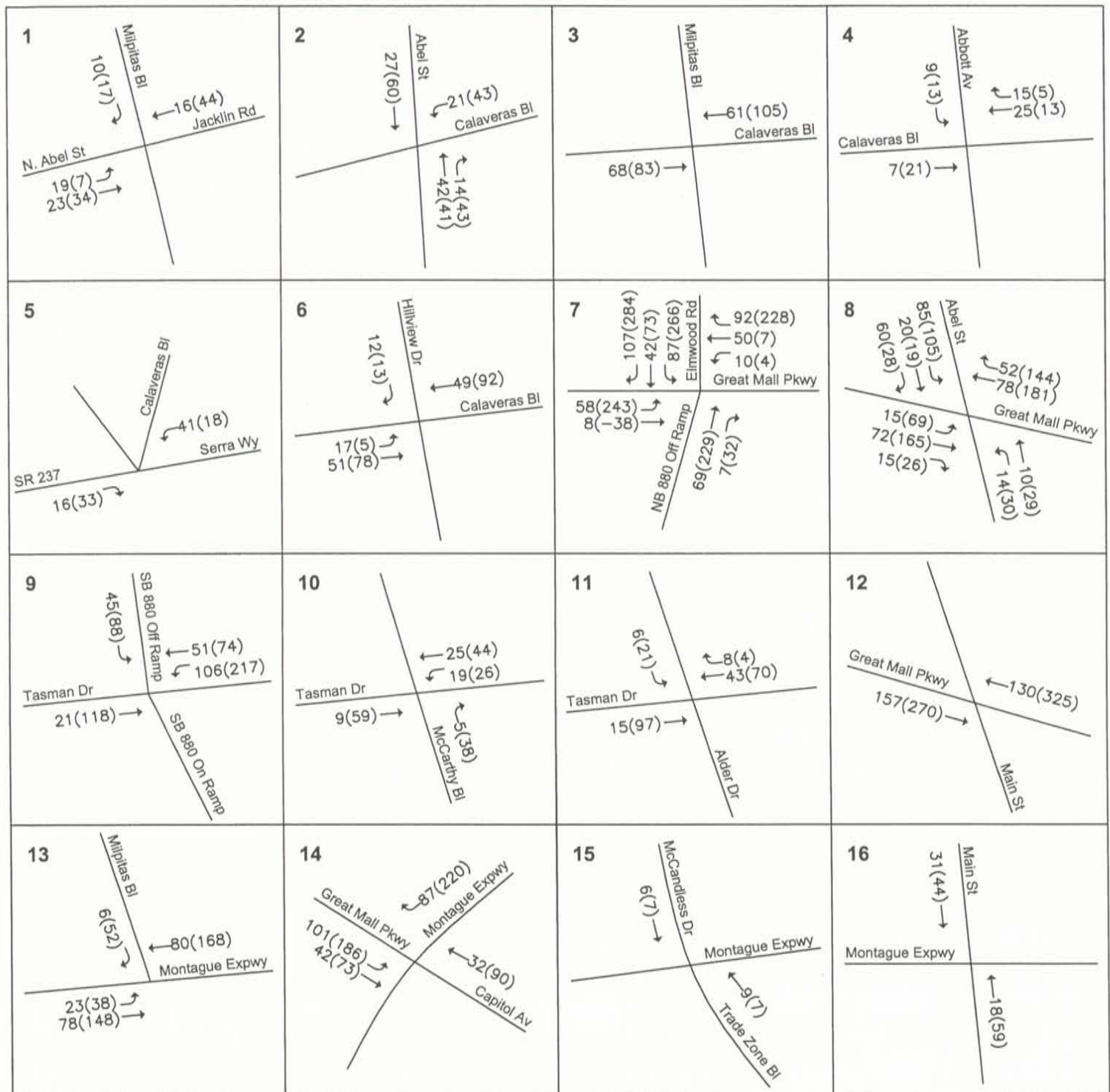


Figure 14

SATURDAY MIDDAY PEAK-HOUR PROJECT TRIP ASSIGNMENT SCENARIO 1

Elmwood Residential

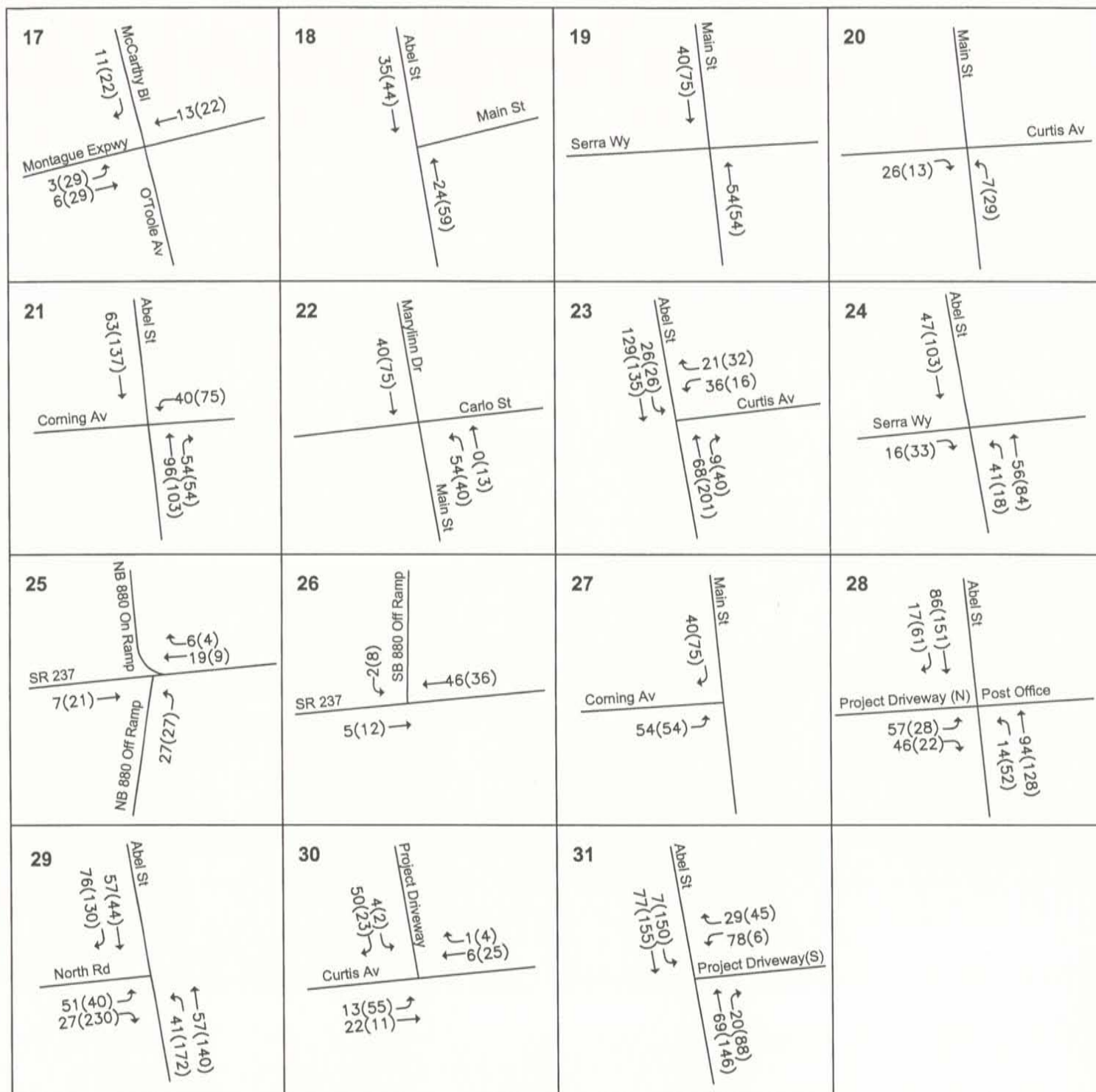


LEGEND

XX(XX) = AM(PM) Peak Hour Volumes

Figure 15

WEEKDAY PEAK-HOUR PROJECT TRIP ASSIGNMENT SCENARIO 2



LEGEND

XX(XX) = AM(PM) Peak Hour Volumes

Figure 15

WEEKDAY PEAK-HOUR PROJECT TRIP ASSIGNMENT SCENARIO 2

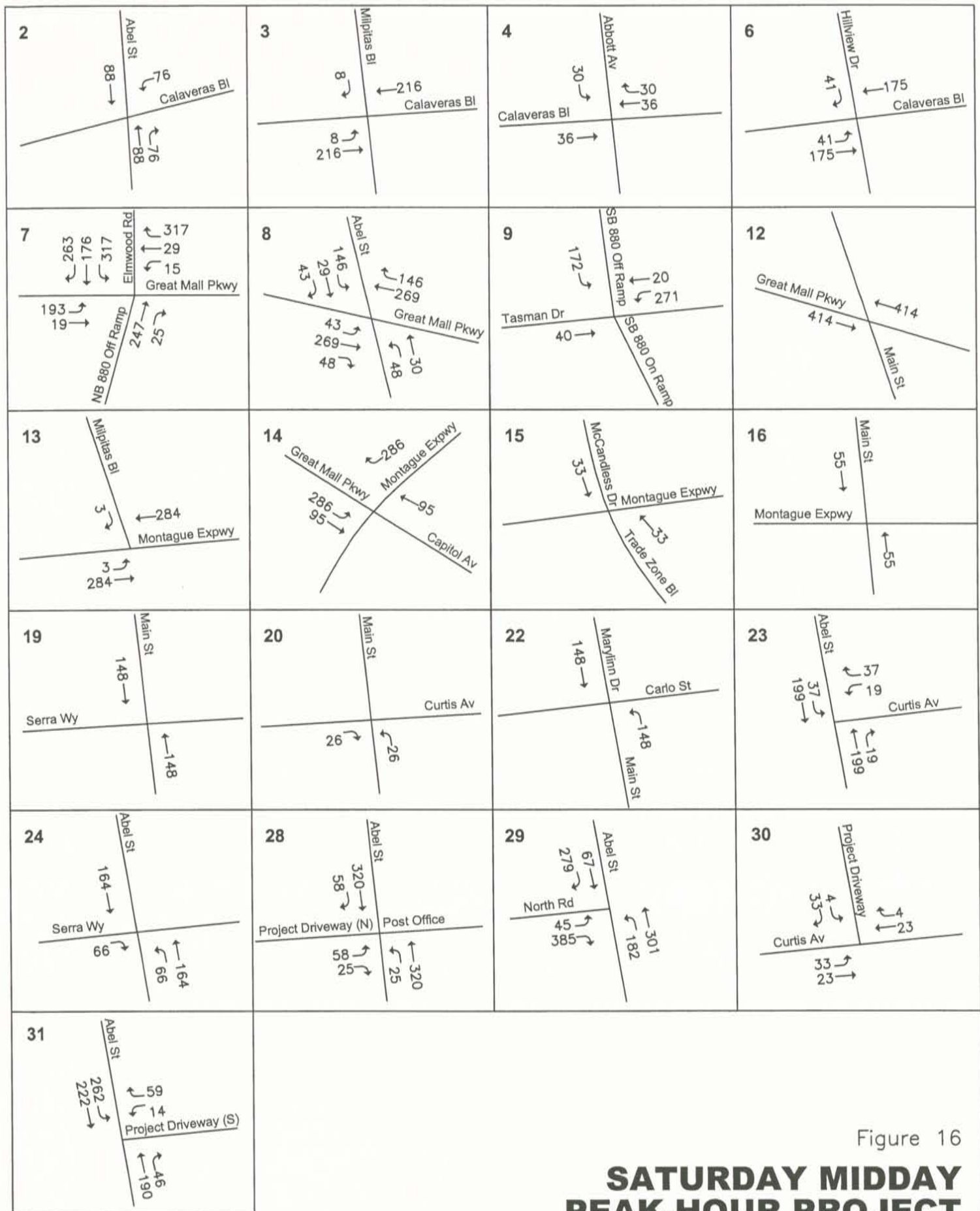
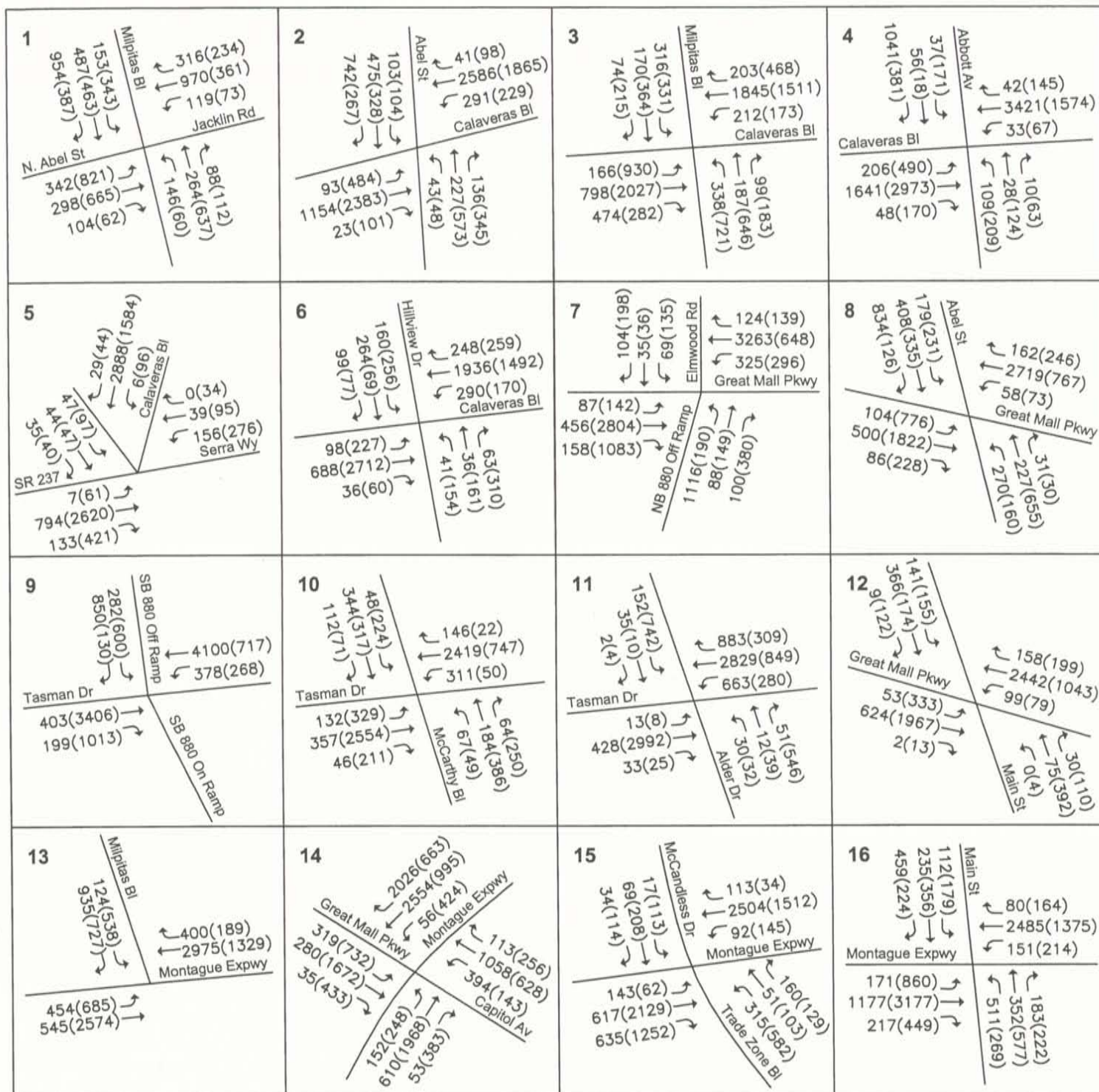


Figure 16

SATURDAY MIDDAY PEAK-HOUR PROJECT TRIP ASSIGNMENT SCENARIO 2

Elmwood Residential



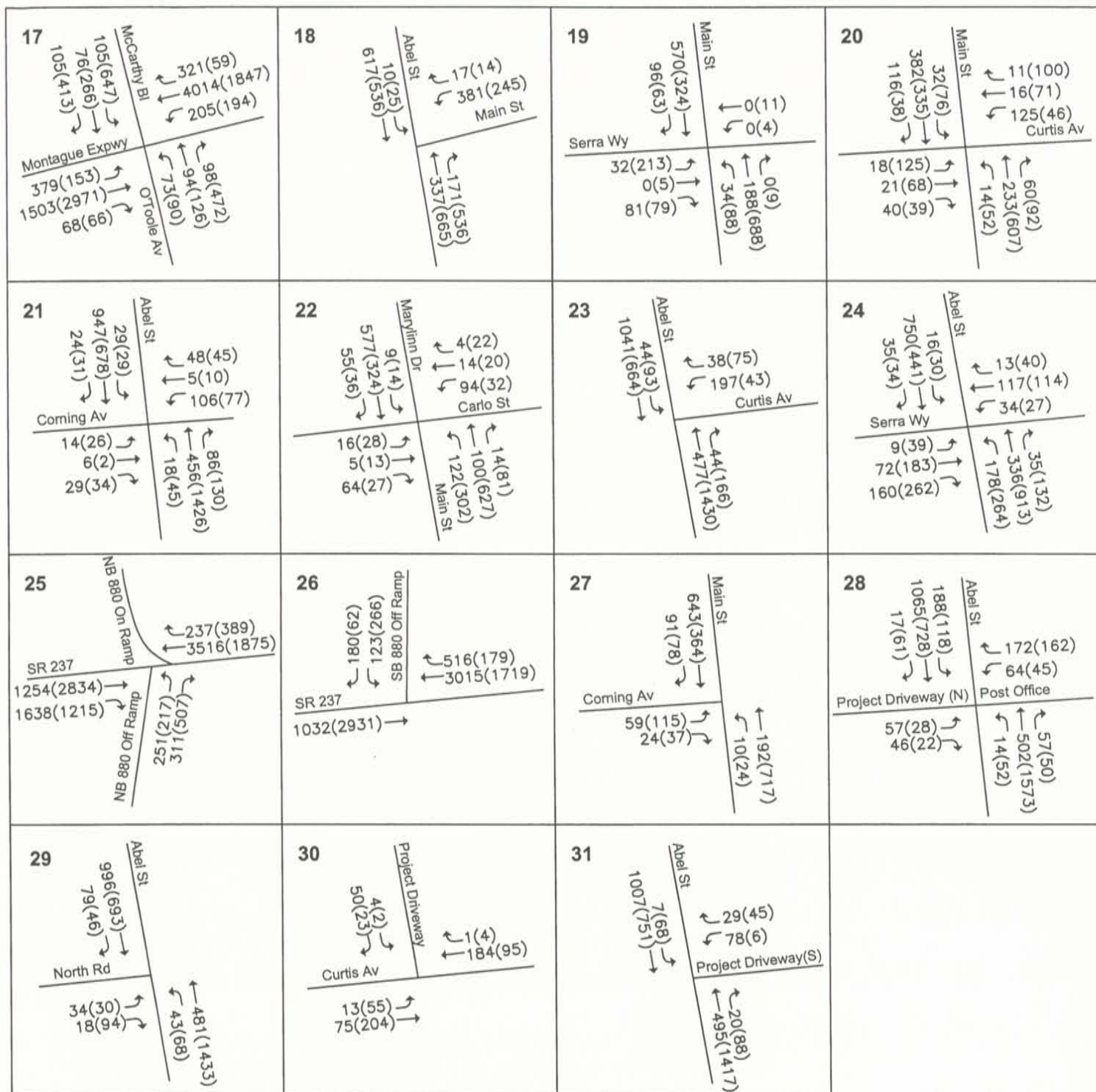
LEGEND

XX(XX) = AM(PM) Peak Hour Volumes

Figure 17

WEEKDAY PEAK-HOUR BACKGROUND PLUS PROJECT TRAFFIC VOLUMES SCENARIO 1

Elmwood Residential



LEGEND

XX(XX) = AM(PM) Peak Hour Volumes

Figure 17

WEEKDAY PEAK-HOUR BACKGROUND PLUS PROJECT TRAFFIC VOLUMES SCENARIO 1

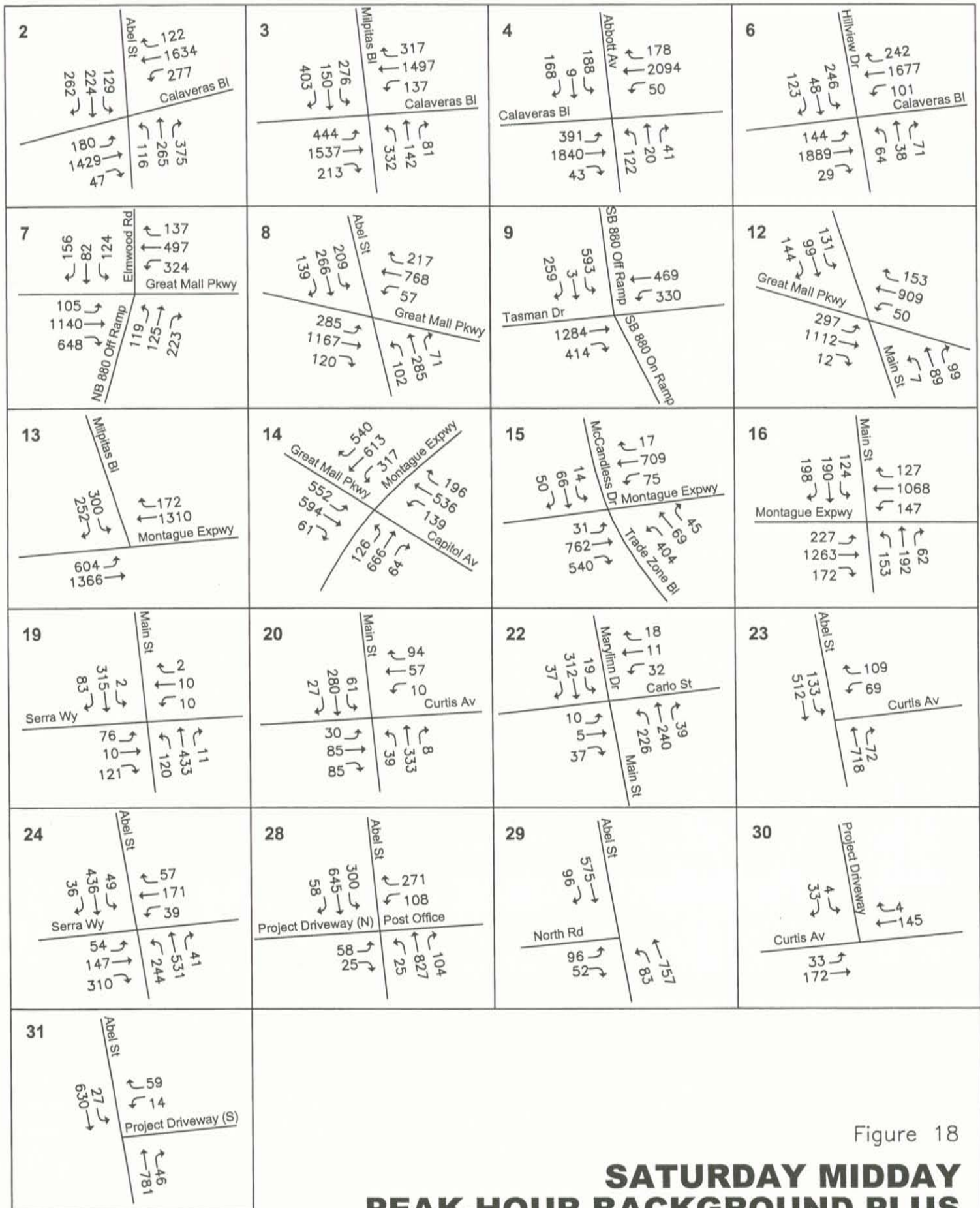
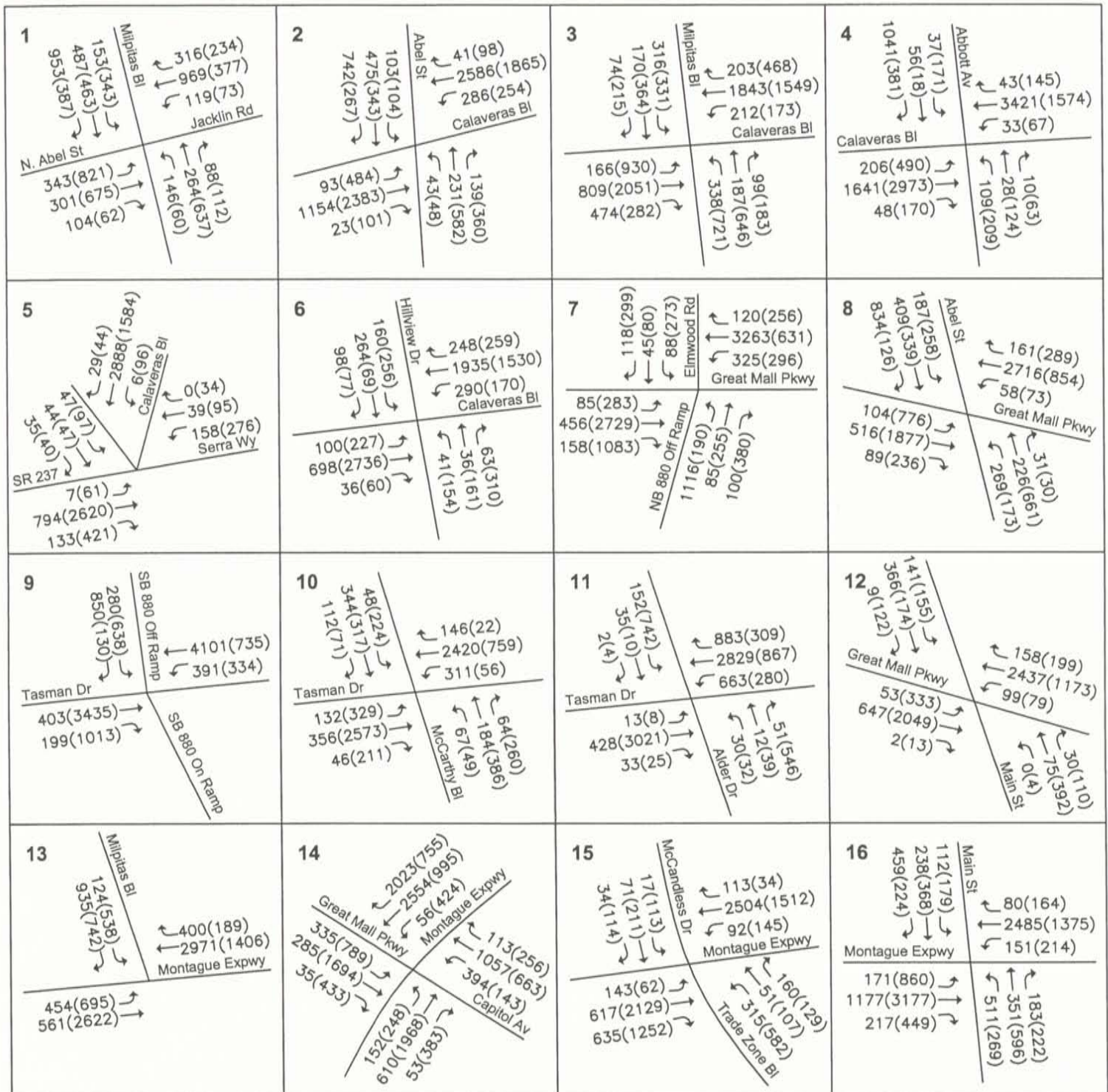


Figure 18

SATURDAY MIDDAY PEAK-HOUR BACKGROUND PLUS PROJECT TRAFFIC VOLUMES SCENARIO 1

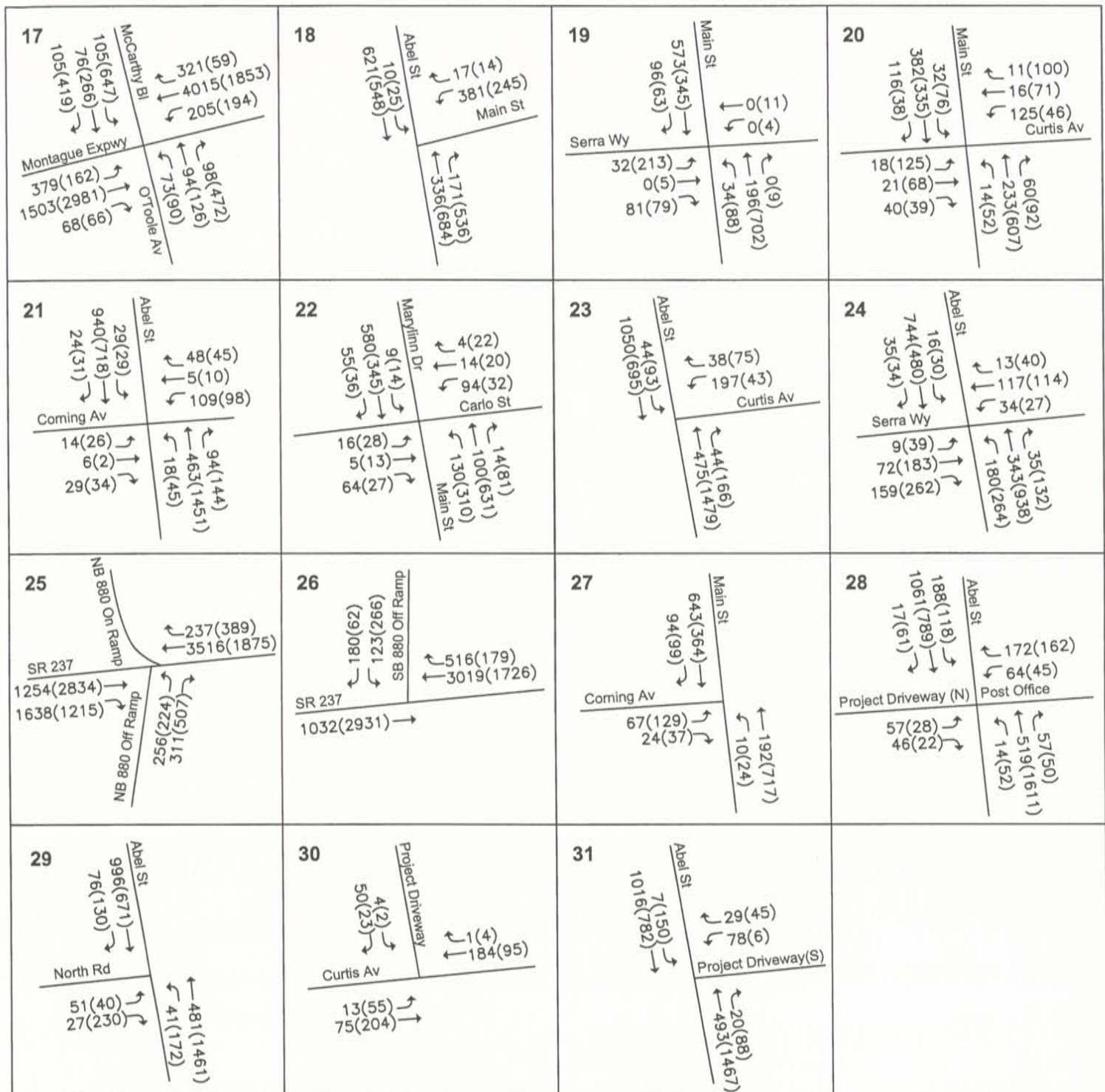


LEGEND

XX(XX) = AM(PM) Peak Hour Volumes

Figure 19

WEEKDAY PEAK-HOUR BACKGROUND PLUS PROJECT TRAFFIC VOLUMES SCENARIO 2



LEGEND

XX(XX) = AM(PM) Peak Hour Volumes

Figure 19

WEEKDAY PEAK-HOUR BACKGROUND PLUS PROJECT TRAFFIC VOLUMES SCENARIO 2

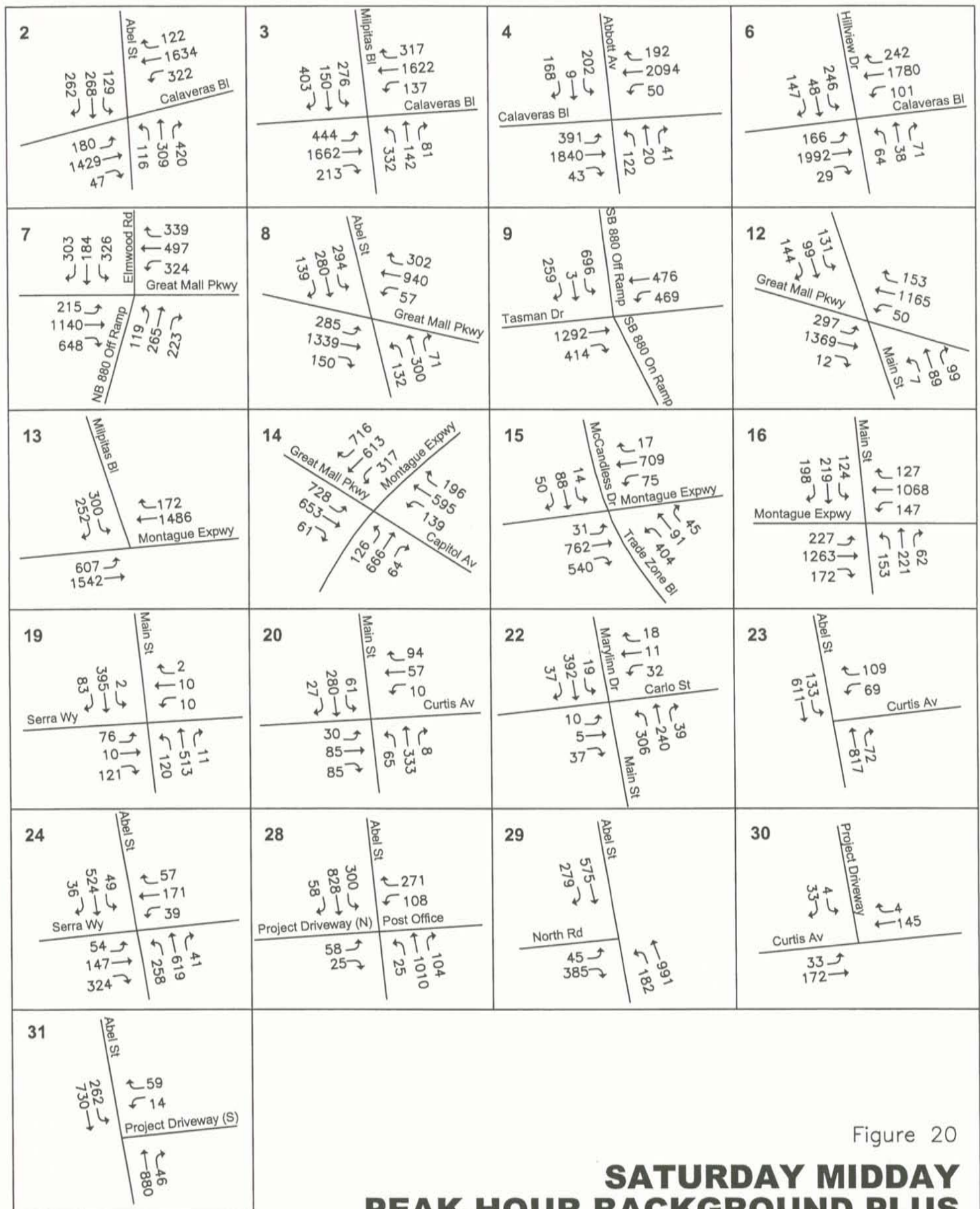


Figure 20

SATURDAY MIDDAY PEAK-HOUR BACKGROUND PLUS PROJECT TRAFFIC VOLUMES SCENARIO 2

Elmwood Residential

Table 12

Project Intersection Levels of Service - Scenario 1

Intersection	Peak Hour	Background		Project Conditions			
		Ave. Delay	LOS	Ave. Delay	LOS	Incr. In Crit Delay	Incr. In Crit V/C
1. North Milpitas Boulevard and North Abel Street/Jacklin Road	AM	48.2	D	51.2	D	4.2	0.013
	PM	32.8	C	33.2	C	0.7	0.011
2. South Abel Street and West Calaveras Boulevard*	AM	52.7	D	53.1	D	0.0	0.000
	PM	57.8	E	62.1	E	4.8	0.018
	Sat	44.1	D	45.5	D	2.6	0.039
3. North/South Milpitas Boulevard and East/West Calaveras Boulevard*	AM	42.5	D	42.5	D	0.5	0.018
	PM	82.0	F	85.8	F	7.0	0.019
	Sat	39.5	D	39.6	D	0.7	0.029
4. South Abbott Avenue and West Calaveras Boulevard	AM	76.1	E	78.4	E	3.2	0.008
	PM	35.0	D	35.8	D	1.1	0.011
	Sat	33.0	C	34.1	C	4.7	0.020
5. Serra Way and West Calaveras Boulevard	AM	15.6	B	16.6	B	0.4	0.012
	PM	24.2	C	24.6	C	2.9	0.006
6. North/South Hillview Drive and East Calaveras Boulevard	AM	32.4	C	33.0	C	0.9	0.019
	PM	36.9	D	37.1	D	0.2	0.011
	Sat	25.3	C	25.7	C	0.0	0.014
7. I-880 Northbound Off-ramp and Great Mall Parkway	AM	92.2	F	112.8	F	20.7	0.149
	PM	77.6	E	98.9	F	29.8	0.159
	Sat	25.9	C	30.8	C	5.8	0.171
8. South Abel Street and Great Mall Parkway	AM	98.4	F	116.1	F	27.5	0.064
	PM	29.3	C	33.1	C	5.3	0.085
	Sat	27.0	C	25.0	C	1.8	0.068
9. I-880 Southbound Off-ramp and Tasman Drive	AM	143.4	F	144.5	F	4.1	0.010
	PM	54.5	D	103.0	F	59.7	0.142
	Sat	30.3	C	37.0	D	3.4	0.124
10. McCarthy Boulevard and Tasman Drive	AM	24.9	C	25.0	C	0.0	0.005
	PM	30.3	C	31.3	C	1.3	0.023
11. Alder Drive and Tasman Drive	AM	20.2	C	20.6	C	0.5	0.011
	PM	182.1	F	188.6	F	9.4	0.022
12. South Main Street and Great Mall Parkway	AM	19.9	B	19.6	B	0.3	0.027
	PM	34.5	C	33.8	C	0.0	0.037
	Sat	29.6	C	28.5	C	0.0	0.030
13. South Milpitas Boulevard and Montague Expressway*	AM	62.9	E	65.7	E	4.0	0.016
	PM	41.0	D	47.9	D	14.7	0.036
	Sat	30.9	C	30.4	C	0.0	0.016
14. Great Mall Parkway/East Capitol Avenue and Montague Expressway*	AM	157.2	F	175.0	F	29.1	0.064
	PM	119.8	F	155.5	F	39.3	0.013
	Sat	43.7	D	43.3	D	0.5	0.079
15. McCandless Drive/Trade Zone Boulevard and Montague Expressway*	AM	35.6	D	35.9	D	6.4	0.005
	PM	96.5	F	106.3	F	82.9	0.008
	Sat	36.2	D	37.6	D	0.0	0.003

- Denotes Project impact

* Denotes CMP Intersection.

Table 12 (cont.)

Project Intersection Levels of Service - Scenario 1

Intersection	Peak Hour	Background		Project Conditions			
		Ave. Delay	LOS	Ave. Delay	LOS	Incr. In Crit Delay	Incr. In V/C
16. South Main Street/Oakland Road and Montague Expressway*	AM	90.0	F	89.8	F	0.0	0.000
	PM	103.6	F	103.6	F	1.4	0.015
	Sat	48.2	D	48.9	D	0.7	0.007
17. McCarthy Boulevard/O'Toole Avenue and Montague Expressway*	AM	39.8	D	40.2	D	0.4	0.003
	PM	119.2	F	142.9	F	0.0	0.007
18. South Abel Street and South Main Street	AM	13.2	B	13.3	B	0.0	0.000
	PM	8.9	A	8.8	A	0.0	0.000
19. South Main Street and Serra Way	AM	6.5	A	6.4	A	0.1	0.023
	PM	10.7	B	10.7	B	0.2	0.025
	Sat	8.3	A	8.0	A	0.0	0.043
20. South Main Street and West Curtis Avenue	AM	18.3	B	18.4	B	0.1	0.014
	PM	20.0	C	20.1	C	0.0	0.000
	Sat	18.5	B	19.3	B	0.9	0.000
21. South Abel Street and Corning Avenue	AM	12.5	B	13.7	B	0.7	0.050
	PM	15.0	B	14.9	B	1.7	0.078
22. South Main Street and Carlo Street (Unsignalized)	AM	22.6	C	29.8	D	7.1	0.078
	PM	39.5	E	43.8	E	4.2	0.031
	Sat	10.8	B	12.2	B	1.4	0.123
23. South Abel Street and West Curtis Avenue	AM	11.1	B	12.0	B	1.0	0.067
	PM	9.3	A	10.8	B	2.0	0.089
	Sat	8.4	A	9.4	A	1.6	0.075
24. South Abel Street and West Serra Way	AM	21.2	C	22.4	C	1.8	0.056
	PM	24.6	C	27.6	C	1.5	0.042
	Sat	24.7	C	24.7	C	2.2	0.097
25. I-880 Northbound Off-ramp and West Calaveras Boulevard	AM	17.9	B	18.1	B	0.1	0.004
	PM	25.4	C	25.5	C	0.1	0.004
26. I-880 Southbound Off-ramp and West Calaveras Boulevard	AM	9.1	A	9.1	A	0.0	0.008
	PM	8.3	A	8.5	A	0.3	0.005
27. South Main Street and Corning Avenue (Unsignalized) /a/	AM	15.0	B	19.0	C	0.9	0.000
	PM	25.8	D	38.3	E	2.0	0.000
28. South Abel Street and Project Driveway (North) (Signalized)	AM	n/a	n/a	11.4	B	n/a	n/a
	PM	n/a	n/a	12.2	B	n/a	n/a
	Sat	n/a	n/a	13.7	B	n/a	n/a
29. South Abel Street and North Road (Unsignalized) /a/	AM	n/a	n/a	30.9	D	n/a	n/a
	PM	n/a	n/a	22.8	C	n/a	n/a
	Sat	n/a	n/a	34.5	D	n/a	n/a
30. Project Driveway and Curtis Avenue (Unsignalized) /a/	AM	n/a	n/a	9.1	A	n/a	n/a
	PM	n/a	n/a	8.8	A	n/a	n/a
	Sat	n/a	n/a	9.0	A	n/a	n/a
31. South Abel Street and Project Driveway (South) (Unsignalized) /a/	AM	n/a	n/a	24.7	C	n/a	n/a
	PM	n/a	n/a	24.9	C	n/a	n/a
	Sat	n/a	n/a	14.5	B	n/a	n/a

/a/ Average delay and level of service reflects worst intersection leg.

□ - Denotes Project impact

* Denotes CMP intersection.

Table 13

Project Intersection Levels of Service - Scenario 2

Intersection	Peak Hour	Background		Project Conditions			
		Ave. Delay	LOS	Ave. Delay	LOS	Incr. In Crit Delay	Incr. In Crit V/C
1. North Milpitas Boulevard and North Abel Street/Jacklin Road	AM	48.2	D	51.1	D	3.9	0.012
	PM	32.8	C	33.4	C	1.0	0.016
2. South Abel Street and West Calaveras Boulevard*	AM	52.7	D	53.0	D	0.0	0.000
	PM	57.8	E	65.1	E	6.8	0.025
	Sat	44.1	D	47.7	D	0.0	0.095
3. North/South Milpitas Boulevard and East/West Calaveras Boulevard*	AM	42.5	D	42.5	D	0.4	0.018
	PM	82.0	F	88.1	F	11.0	0.030
	Sat	39.5	D	39.7	D	1.9	0.065
4. South Abbott Avenue and West Calaveras Boulevard	AM	76.1	E	78.5	E	3.3	0.008
	PM	35.0	D	35.8	D	1.1	0.011
	Sat	33.0	C	35.1	D	6.1	0.031
5. Serra Way and West Calaveras Boulevard	AM	15.6	B	16.7	B	3.0	0.013
	PM	24.2	C	24.6	C	2.9	0.006
6. North/South Hillview Drive and East Calaveras Boulevard	AM	32.4	C	33.1	C	1.1	0.020
	PM	36.9	D	37.1	D	0.3	0.015
	Sat	25.3	C	26.1	C	0.0	0.034
7. I-880 Northbound Off-ramp and Great Mall Parkway	AM	92.2	F	113.0	F	20.6	0.164
	PM	77.6	E	129.4	F	85.2	0.278
	Sat	25.9	C	57.2	E	52.8	0.449
8. South Abel Street and Great Mall Parkway	AM	98.4	F	115.3	F	27.0	0.062
	PM	29.3	C	35.1	D	8.1	0.117
	Sat	27.0	C	26.1	C	0.0	0.171
9. I-880 Southbound Off-ramp and Tasman Drive	AM	143.4	F	144.4	F	4.2	0.010
	PM	54.5	D	129.2	F	91.1	0.212
	Sat	30.3	C	52.1	D	25.5	0.274
10. McCarthy Boulevard and Tasman Drive	AM	24.9	C	25.0	C	0.1	0.005
	PM	30.3	C	31.7	C	1.9	0.032
11. Alder Drive and Tasman Drive	AM	20.2	C	20.6	C	0.5	0.011
	PM	182.1	F	190.3	F	12.0	0.028
12. South Main Street and Great Mall Parkway	AM	19.9	B	19.6	B	0.3	0.026
	PM	34.5	C	33.7	C	0.0	0.053
	Sat	29.6	C	27.0	C	0.0	0.080
13. South Milpitas Boulevard and Montague Expressway*	AM	62.9	E	65.5	E	3.9	0.016
	PM	41.0	D	45.0	D	7.9	0.054
	Sat	30.9	C	29.8	C	0.0	0.040
14. Great Mall Parkway/East Capitol Avenue and Montague Expressway*	AM	157.2	F	174.8	F	28.3	0.062
	PM	119.8	F	138.0	F	10.0	0.014
	Sat	43.7	D	43.6	D	2.6	0.205
15. McCandless Drive/Trade Zone Boulevard and Montague Expressway*	AM	35.6	D	36.0	D	6.5	0.006
	PM	96.5	F	99.3	F	4.1	0.010
	Sat	36.2	D	41.4	D	0.0	0.103

□ - Denotes Project impact

* Denotes CMP intersection.

Table 13 (cont.)
Project Intersection Levels of Service - Scenario 2

Intersection	Peak Hour	Background		Project Conditions			
		Ave. Delay	LOS	Ave. Delay	LOS	Incr. In Crit Delay	Incr. In Crit V/C
16. South Main Street/Oakland Road and Montague Expressway*	AM	90.0	F	89.8	F	0.0	0.000
	PM	103.6	F	108.1	F	7.2	0.017
	Sat	48.2	D	48.8	D	1.4	0.015
17. McCarthy Boulevard/O'Toole Avenue and Montague Expressway*	AM	39.8	D	40.2	D	0.4	0.003
	PM	119.2	F	118.9	F	0.0	0.005
18. South Abel Street and South Main Street	AM	13.2	B	13.3	B	0.0	0.000
	PM	8.9	A	8.8	A	0.0	0.000
19. South Main Street and Serra Way	AM	6.5	A	6.4	A	0.1	0.025
	PM	10.7	B	10.7	B	0.2	0.034
	Sat	8.3	A	7.9	A	0.0	0.094
20. South Main Street and West Curtis Avenue	AM	18.3	B	18.4	B	0.1	0.014
	PM	20.0	C	20.1	C	0.0	0.000
	Sat	18.5	B	19.3	B	0.9	0.000
21. South Abel Street and Corning Avenue	AM	12.5	B	13.8	B	0.9	0.050
	PM	15.0	B	15.6	B	2.5	0.107
22. South Main Street and Carlo Street (Unsignalized)	AM	22.6	C	30.7	D	8.0	0.088
	PM	39.5	E	45.8	E	6.3	0.044
	Sat	10.8	B	15.1	C	4.3	0.277
23. South Abel Street and West Curtis Avenue	AM	11.1	B	12.0	B	1.0	0.066
	PM	9.3	A	11.1	B	2.5	0.105
	Sat	8.4	A	9.1	A	1.3	0.107
24. South Abel Street and West Serra Way	AM	21.2	C	22.4	C	1.8	0.055
	PM	24.6	C	30.5	C	1.6	0.050
	Sat	24.7	C	25.4	C	3.5	0.145
25. I-880 Northbound Off-ramp and West Calaveras Boulevard	AM	17.9	B	18.2	B	0.1	0.004
	PM	25.4	C	25.5	C	0.1	0.004
26. I-880 Southbound Off-ramp and West Calaveras Boulevard	AM	9.1	A	9.1	A	0.0	0.009
	PM	8.3	A	8.5	A	0.3	0.005
27. South Main Street and Corning Avenue (Unsignalized) /a/	AM	15.0	B	19.7	C	1.1	0.000
	PM	25.8	D	45.4	E	3.2	0.000
28. South Abel Street and Project Driveway (North) (Signalized)	AM	n/a	n/a	11.4	B	n/a	n/a
	PM	n/a	n/a	12.4	B	n/a	n/a
	Sat	n/a	n/a	14.0	B	n/a	n/a
29. South Abel Street and North Road (Unsignalized) /a/	AM	n/a	n/a	34.8	D	n/a	n/a
	PM	n/a	n/a	33.6	D	n/a	n/a
	Sat	n/a	n/a	29.3	D	n/a	n/a
30. Project Driveway and Curtis Avenue (Unsignalized) /a/	AM	n/a	n/a	9.1	A	n/a	n/a
	PM	n/a	n/a	8.8	A	n/a	n/a
	Sat	n/a	n/a	9.0	A	n/a	n/a
31. South Abel Street and Project Driveway (South) (Unsignalized) /a/	AM	n/a	n/a	24.8	C	n/a	n/a
	PM	n/a	n/a	34.2	D	n/a	n/a
	Sat	n/a	n/a	28.1	D	n/a	n/a

/a/ Average delay and level of service reflects worst intersection leg.

□ - Denotes Project impact

* Denotes CMP intersection.

All of these signalized intersections would operate at unacceptable levels of service under background conditions for one or both peak hours. The addition of scenario 1 traffic would increase the critical delay by more than 4 seconds and the V/C ratio by more than 0.01 at each of these intersections. At the unsignalized intersections, the project would result in each intersection operating below its level of service standard during one or more peak hours.

Under scenario 2 conditions, the proposed project would create significant impacts at all of the same locations described in scenario 1. However, the average intersection delays would be higher than those of scenario 1 because scenario 2 would add more traffic to the study intersections. Scenario 2 would result in two additional impacts at the following CMP intersections:

- McCandless Drive/Trade Zone Boulevard and Montague Expressway
- South Main Street/Oakland Road and Montague Expressway

These signalized intersections would operate at unacceptable levels of service under background conditions (LOS F). The addition of scenario 2 traffic would increase the critical delay by more than 4 seconds and the V/C ratio by more than 0.01.

Freeway Segment Impacts

Per CMP guidelines for freeway segments, project traffic volumes were calculated by adding peak-hour, project-generated traffic to the existing volumes. The results are shown in Tables 14 and 15, for scenarios 1 and 2, respectively. According to the definitions provided in Chapter 1, the proposed project would create an adverse significant impact at the following freeway segments under both scenarios 1 and 2:

- I-880, Tasman Drive to Montague Expressway - Northbound (PM peak hour)
- I-880, Brokaw Road to Montague Expressway - Southbound (PM peak hour)

It should be noted that the impacts on the freeway segments shown above are located on or directly adjacent to the recent widening of I-880 between Montague Expressway and U.S. 101. However, the average vehicle speeds and volume data supplied by the CMP on these segments were based on traffic conditions before the widening. For this reason, the freeway level of service calculated for this report may be artificially poor. It is believed that traffic conditions on these segments will show significant improvement in the next round of CMP monitoring, which would offset the impact of project traffic. The level of improvement cannot be predicted with certainty. For this reason, and the fact that no feasible project mitigations exist, these impacts should be considered *significant and unavoidable*.

North San Jose Deficiency Plan Impacts

The impacts of the proposed project were also evaluated using the North San Jose Plan (NSJDP) criteria. To remain consistent with NSJDP methods, only San Jose's approved trips were used in the background condition calculation. Under background conditions, the 22-intersection average delay was 60 seconds using TRAFFIX software. With the addition of project traffic, the 22-intersection average would remain at 60 seconds. This information is summarized on Table 16. The related level of service calculations are contained in Appendix D. According to the NSJDP impact criteria, the proposed development would not impact North San Jose, and therefore, mitigation would not be required.

Table 14

Freeway Segment Levels of Service - Project Conditions (Scenario 1)

Freeway Segment	Direction	Peak Hour	Ave. Speed/a/	Existing Plus Project Trips			Project Trips		
				# of Lanes	Volume/a/	Density	LOS	Total Volume	Mixed-Flow % Capacity
I-880	Tasman Drive to Montague Expwy	AM	67	3.5	4,713	20.1	C	93	93 1.2%
		PM	50	3.5	6,751	38.6	D	151	151 1.9%
I-880	Montague Expwy to Brokaw Road /b/	AM	64	3	4,181	21.8	C	81	81 1.2%
		PM	13	3	2,815	72.2	F	135	135 2.0%
I-880	Montague Expwy to Tasman Drive	AM	67	3.5	4,099	17.5	B	79	79 1.0%
		PM	11	3.5	3,785	98.3	F	155	155 1.9%
I-880	Brokaw Road to Montague Expwy /b/	AM	62	3	4,413	23.7	C	73	73 1.1%
		PM	25	3	3,735	49.8	E	135	135 2.0%

/a/ Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Database, 2002.

/b/ Denotes planned improvement.

□ - Denotes Project impact

Table 15

Freeway Segment Levels of Service - Project Conditions (Scenario 2)

Freeway Segment	Direction	Peak Hour	Existing Plus Project Trips				Project Trips			
			Mixed-Flow Lanes		Mixed-Flow Lanes		Mixed-Flow Lanes		Mixed-Flow Lanes	
			Ave. Speed/a/	# of Lanes	Volume/a/	Density	LOS	Total Volume	Volume	Capacity %
I-880	SR 237 to Tasman Drive	AM	66	3.5	4,795	20.8	C	45	45	0.6%
		PM	67	3.5	3,708	15.8	B	88	88	1.1%
I-880	Tasman Drive to Montague Expwy	AM	67	3.5	4,726	20.2	C	106	106	1.3%
		PM	50	3.5	6,817	39.0	D	217	217	2.7%
I-880	Montague Expwy to Brokaw Road /b/	AM	64	3	4,193	21.8	C	93	93	1.4%
		PM	13	3	2,875	73.7	F	195	195	3.0%
I-680	Montague Expressway to Capitol Avenue	AM	67	4	5,955	22.2	C	55	55	0.6%
		PM	24	4	7,178	74.8	F	78	78	0.8%
I-880	Tasman Drive to SR 237	AM	67	3.5	4,072	17.4	B	52	52	0.6%
		PM	12	3.5	3,998	95.2	F	78	78	1.0%
I-880	Montague Expwy to Tasman Drive	AM	67	3.5	4,096	17.5	B	76	76	0.9%
		PM	11	3.5	3,890	101.0	F	260	260	3.2%
I-880	Brokaw Road to Montague Expwy /b/	AM	62	3	4,410	23.7	C	70	70	1.1%
		PM	25	3	3,831	51.1	E	231	231	3.5%
I-680	Capitol Avenue to Montague Expressway	AM	64	4	8,505	33.2	D	55	55	0.6%
		PM	64	4	8,542	33.4	D	92	92	1.0%

/a/ Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Database, 2002.

/b/ Denotes planned improvement.

□ - Denotes Project impact

Table 16

North San Jose Deficiency Plan Intersection Levels of Service (PM Peak Hour)

Intersection	Background			Scenario 1			Scenario 2		
	Avg. Delay /a/		LOS	Avg. Delay /a/		LOS	Avg. Delay /a/		LOS
SR 237/North First Street (N)	113	/b/	F	113	/b/	F	113	/b/	F
SR 237/North First Street (S)	52		E	52		E	52		E
North First Street/Trimble Road	50		E	50		E	50		E
North First Street/Brokaw Road	85		F	85		F	85		F
I-880/North First Street (N)	14		B	14		B	14		B
I-880/North First Street (S)	14		B	14		B	14		B
SR 237/Zanker Road (N)	11		B	11		B	11		B
SR 237/Zanker Road (S)	12		B	12		B	12		B
Zanker Road/Trimble Road	25		C	25		C	25		C
Zanker Road/Brokaw Road	29		D	29		D	29		D
Montague Expressway/North First Street	300	/b/	F	300	/b/	F	300	/b/	F
Montague Expressway/Zanker Road	132		F	132		F	132		F
Montague Expressway/Trimble Road	63		F	63		F	63		F
Montague Expressway/McCarthy Boulevard	99		F	100		F	101		F
Montague Expressway/Old Oakland Road	55		E	58		E	59		E
Montague Expressway/Trade Zone Boulevard	93		F	97		F	101		F
Trimble Road/De La Cruz Boulevard	38		D	38		D	38		D
U.S. 101/Brokaw Road	19		C	19		C	19		C
I-880/Brokaw Road (W)	29		D	29		D	29		D
I-880/Broakw Road (E)	11		B	11		B	11		B
Brokaw Road/Old Oakland Road	38		D	38		D	38		D
Murphy Avenue/Lundy Avenue	32		D	32		D	32		D
Average	60		F	60		F	60		F

/a/ Whole intersection weighted average stopped delay expressed in seconds per vehicle.

/b/ Intersection delay is capped at 150% of the cycle length.

Intersection Mitigation

This section discusses project mitigation for the intersection level of service impacts previously described. The following intersection impacts could be mitigated to less than significant levels by the proposed development under scenarios 1 and 2. The recommended improvements and the resulting levels of service are shown in Table 17.

South Main Street and Carlo Street. The intersection of South Main Street and Carlo Way is currently unsignalized and would operate at LOS E under scenarios 1 and 2 during the PM commute hours. The City has plans to signalize this location, but has yet to collect sufficient funds to complete the improvement. A traffic signal would improve the level of service at this location to better than LOS D under scenarios 1 and 2 during both the AM and PM peak hours. Therefore, the recommended mitigation at this location is for the project to make a "fair share" monetary contribution to this improvement so that it could be implemented before the project is completed. The implementation of this mitigation would reduce the project's impact under scenarios 1 and 2 to *less than significant levels*.

South Main Street and Corning Avenue. The intersection of South Main Street and Corning Avenue is currently unsignalized and would operate at LOS E during the PM peak under scenario 1 and scenario 2. A traffic signal would improve the level of service at this location to better than LOS D under scenarios 1 and 2 during the PM peak hour. Therefore, the recommended mitigation is for the project to construct a traffic signal at this location. The implementation of this mitigation would reduce the project's impact under scenarios 1 and 2 to *less than significant levels*.

In the *Milpitas Midtown Specific Plan EIR*, impacts to the following study intersections were considered *significant and unavoidable* because no feasible mitigation measures could be identified:

- I-880 Northbound Off-ramp and Great Mall Parkway
- South Abel Street and Great Mall Parkway
- I-880 Southbound Off-ramp and Tasman Drive
- Calaveras Boulevard and Milpitas Boulevard*
- Great Mall Parkway/East Capitol Avenue and Montague Expressway*
- South Main Street/Oakland Road and Montague Expressway* (scenario 2 impact only)
- McCandless Drive/Trade Zone Boulevard and Montague Expressway* (scenario 2 impact only)

* Denotes CMP intersections.

A full discussion of these intersections and the lack of feasible improvements is provided in the *Milpitas Midtown Specific Plan EIR*. Under scenario 1 or scenario 2 conditions, there are no feasible mitigation measures to reduce the impacts at these intersections to less than significant levels. Therefore, the impacts at these intersections are *significant and unavoidable*. However, as *partial mitigation* for these impacts, the following measures are recommended:

Table 17
Mitigation Measures

Mitigation Measures												
Intersection	Peak Hour	Scenario 1			Mitigation	Scenario 2			Mitigated Level of Service			
		Ave. Delay	LOS	LOS		Ave. Delay	LOS	LOS	Scenario 1	Scenario 2		
South Main Street and Carlo Street	AM	29.8	D		Traffic Signal	30.7	D		15.7	B	16.0	B
	PM	43.8	E			45.8	E		16.4	B	16.6	B
	Saturday	12.2	B			15.1	C		16.7	B	18.2	B
South Main Street and Corning Street	AM	19.0	C		Traffic Signal	19.7	C		5.4	A	5.7	A
	PM	38.3	E			45.4	E		7.7	A	8.2	A

Midtown Specific Plan Traffic Mitigation Fee. The city has set up a traffic mitigation fee within the Midtown Specific Plan area to fund improvements that are not feasible for individual projects. It is recommended that the proposed project pay its "fair share" of these fees based on the magnitude of its impacts.

Intersections along Montague Expressway. The City of Milpitas and County of Santa Clara currently have plans to widen Montague Expressway between I-880 and I-680 to three mixed flow lanes and one 24-hour HOV lane in each direction. The segment between Great Mall Parkway and I-680 has recently been fully funded by the City of Milpitas and the County of Santa Clara. However, other portions of this improvement remain unfunded. As partial mitigation for project impacts, it is recommended that the proposed project contribute its "fair share" to the costs of widening Montague Expressway. The "fair share" cost is to be determined by the City based on the magnitude of the project impacts.

Improvement to East/West Corridor. The City of Milpitas is currently planning traffic improvements at the intersection of Calaveras Boulevard/Abel Street. Improvements to this intersection would decrease traffic delays on Calaveras Boulevard, which is a key east/west commute corridor in the city. The project would be located in close proximity to this intersection, and therefore, it would send a significant number of project trips through the intersection. Because of this, and the fact that the project cannot fully mitigate its impacts on other east/west corridors (such as Calaveras Boulevard, Tasman Drive and Montague Expressway), it is recommended that the proposed project make a "fair share" monetary contribution to the planned traffic improvements at this intersection.

Great Mall Parkway/I-880 Ramps. Elmwood Road would form the north leg of the Great Mall Parkway/I-880 Ramps intersection. As it is currently configured, the north approach of this intersection has one right-turn lane and one shared left-through lane. This intersection would operate at LOS F under both scenarios during one or more peak hours. In the *Midtown Specific Plan EIR*, the impact to this location was considered significant and unavoidable due to the high costs of improving it to an acceptable level of service. Much of the future delay problem at this intersection is caused by existing and background traffic. However, improvements to the north leg of the intersection where project access occurs would improve intersection operations. Therefore, it is recommended that the proposed project implement the following geometry at the north leg under either project scenario:

North Approach: One right-turn lane, one shared through-left lane, and one left-turn lane.
North Receiving Lane: One northbound lane.

In addition, the project would be responsible for all signal modifications in conjunction with this improvement.

Tasman Drive and Alder Drive. This intersection would operate at LOS F during the PM peak hour under scenarios 1 and 2. The *Milpitas Midtown Specific Plan* identified mitigation measures for this intersection, but stated that the need for the improvements should be re-evaluated in the future due to potential complications with light rail operation, which runs through the intersection along Tasman Drive. The city has already committed to funding an improvement at this location, if appropriate. However, the intersection would still operate at LOS F. Aside from this improvement, there are no other feasible improvements to this intersection. Therefore, this impact is *significant and unavoidable*.

5.

Other Transportation Impacts

This chapter presents other transportation issues associated with the project. These include an analysis of:

- Impacts to bicycles and pedestrians,
- Impacts to transit facilities, and
- Potential traffic diversion.

Unlike the level of service impact methodology, which is adopted by the City Council, the analysis below is based on professional judgement in accordance with the standards and methods employed by the traffic engineering community.

Pedestrians and Bicycles

Existing bicycle and pedestrian access to the site is provided by a series of sidewalks and bike lanes on Great Mall Parkway, Abel Street, and Main Street. Bikes are also permitted to use the shoulder area of Montague Expressway. Although the streets within the project would not contain bike lanes, the traffic volumes and vehicle speeds would be sufficiently low that shared use of the roadway between bikes and motor vehicles would be feasible.

Sidewalks are provided on Great Mall Parkway and Abel Street, as well as in the residential neighborhood to the north. The proposed development would increase the demand for offsite pedestrian facilities. However, this demand would not create the need for sidewalks and crosswalks greater than what is currently provided.

Transit Impacts

The current transit service in the project vicinity consists of VTA operated bus routes and several bus stops on Great Mall Parkway and Main Street. Field observations have shown that these facilities operate within capacity. Although the proposed project would increase the demand for such facilities in the

vicinity of the site, the addition on these trips would not result in a demand for transit service greater than what is currently being provided.

Residents of the proposed project would reside approximately one-half mile from the Tasman east light rail station at the Great Mall of the Bay Area. The light rail station and its companion bus transfer station have recently been completed. These facilities increase the likelihood that the future residents of the proposed project would ride transit. However, the incremental impact of this project on system-wide ridership would be minimal.

Traffic Diversion

There is the potential for existing traffic diversion from the public street system on South Abel Avenue and Great Mall Parkway to North Road and Elmwood Road. These trips would occur during peak hours by drivers wishing to avoid the signalized intersection of South Abel Avenue and Great Mall Parkway, which is projected to operate at LOS F during peak hours. Based on travel time analysis and travel demand forecast model runs using the Milpitas Sub-Area Model, this diversion could be between 0 and 350 peak hour trips. The amount of diversion is largely dependent on the design of North Road. If North Road is designed as a narrow, low speed roadway, the diversion would likely be on the lower end of the range. Conversely, if North Road were designed as wide and straight, the diversion would likely be at the higher end of the spectrum.

Another consideration is access from the auto dealerships to Abbott Avenue, via a connection between Abbott Avenue and Elmwood Road. Current traffic model projections show limited commercial traffic draw from the north. Most of the commercial traffic would be generated from the south and east. Nonetheless, access to Abbott Avenue would draw approximately 100 weekday peak hour trips from the commercial parcels. Nearly all of these trips would be southbound right turns and eastbound left-turns at the intersection of North Road/Abel Street. When a traffic signal was considered at North Road/Abel Street, there was no compelling reason for access to Abbott Avenue. However, without a traffic signal, left turn movements at North Road/Abel Street would become more difficult. Thus, drivers would have an incentive to seek easier access at Abbott Avenue. In this regard, access to Abbott Avenue would benefit the commercial traffic by providing it with another access point to the public street network. Similarly, approximately 50 weekday peak hour trips from the residential portion of project could use access at Abbott Avenue. These trips would be diverted from the southbound right turn and eastbound left turn movements at the intersection of Street A/Abel Street.

Aside from diversions in project traffic, a connection between Elmwood Road and Abbott Avenue would likely divert some existing north/south traffic from Abel Street and Main Street. Our best estimate without using a travel demand forecast model is that approximately 400 weekday peak hour trips could be diverted from Abel Street to Abbott Avenue. The diversion may cause an increase in delay at Great Mall Parkway/I-880 Northbound Ramps intersection. The actual amount of diversion will depend on the design of the connection.

An Abbott Avenue connection would be of some benefit to the proposed project. However, it would primarily draw project traffic away from Abel Street, rather than the I-880/Great Mall Parkway interchange. Under the design recommended for Abel Street (as previously described), project access to Abel Street would be adequate. For this reason, we do not believe that Abbott Avenue access for the proposed project is necessary at this time. However, we recommend that the design of the commercial parcels not preclude a future connection.

Depending on the design of the connection, the Abbott Street connection could significantly alter travel patterns in the Milpitas mid-town area. These impacts are beyond the scope of this analysis and would need to be evaluated with further study.

6. Cumulative Conditions

This chapter presents a summary of the traffic conditions that would occur under cumulative conditions. The analysis of cumulative conditions was conducted based on projected roadway link volumes using year 2015 land use data. Traffic volumes for year 2015 conditions were developed using the City of Milpitas travel demand forecast model.

2015 Traffic Volumes

The year 2015 City of Milpitas travel model is a subset of the Center for Urban Analysis (CUA) model maintained by the Valley Transportation Authority. This regional model is used by VTA to produce traffic projections for use in transportation and air quality planning. Although the CUA model produces reasonable forecasts for freeways and major arterials in Santa Clara County, the model does not include enough traffic analysis zones or roadway network details to produce accurate forecasts for local streets in the City of Milpitas. Thus, the City developed its own model based on the CUA methodology and validated this model for 1997 conditions.

The City's 2015 model includes land use forecasts based on the City's General Plan and land use assumptions published for Santa Clara County in "projections 1998" by the Association of Bay Area Governments (ABAG). The current General Plan model includes recent changes such as the buildout of the McCarthy Ranch office development and the Cisco Systems campus. In addition, the forecast volumes were refined by City staff to reflect the approval of the Milpitas Midtown Specific Plan and other approved projects.

At the time of this study, a 2025 travel demand forecast model is under development by the VTA CMP for Santa Clara County. However, work on this model has not been completed, and therefore, it could not be used for this analysis.

2015 Network Assumptions

The City's year 2015 roadway network includes planned transportation improvements. The highway and transit networks in the 2015 CUA model formed the basis for the City model. The improvements included in the CUA model are funded or have a probability of receiving funding in the near future. Within the City of Milpitas, the following improvements were included:

- **I-880 Widening Projects.** I-880 will be widened to include a high occupancy vehicle lane and auxiliary lane in each direction from Montague Expressway north into Alameda County.
- **Fremont Boulevard Extension to Dixon Landing Road.** Fremont Boulevard will be extended southward from its current terminus near Lakeview Drive to Dixon Landing Road. The Fremont Boulevard extension will include two lanes in each direction and will form the forth leg of the McCarthy Boulevard/Dixon Landing Road intersection.

Proposed 2015 Land Use Changes

The proposed project contains elements that are inconsistent with the existing Milpitas General Plan. Under the existing General Plan, approximately 34 acres north and west of the existing Elmwood Correctional Facility are planned for commercial uses. This area is referred to in the *Milpitas Midtown Specific Plan* as the Elmwood opportunity site. Under the proposed General Plan, portions of this area would be re-designated to allow residential uses. A land use comparison of the existing General Plan to that of scenarios 1 and 2 is shown in Table 18 for the Elmwood opportunity site. The proposed condominium uses on the east side of Abel Street would be consistent with the City's General Plan.

Table 18
Elmwood Opportunity Site - Proposed General Plan Changes

Existing General Plan	Scenario 1	Scenario 2
300,000 sf. Commercial	180,000 sf. Commercial 115 Single Family Homes 292 Townhomes	240,000 sf. Commercial 115 Single Family Homes 292 Townhomes

The proposed modification to the General Plan would result in changes in traffic generation from the Elmwood opportunity site. The traffic generation changes are summarized in Table 19. Under scenario 1, daily traffic would decrease by 8,514 trips, PM peak hour traffic would decrease by 612 trips and AM peak hour traffic would increase by 99 trips. Under scenario 2, daily traffic would decrease by 714 trips, PM peak hour traffic would increase by 12 trips and AM peak hour traffic would increase by 153 trips.

Table 19
Proposed General Plan Trip Generation

Use	Size ²	Daily Trips	AM Peak Hour						PM Peak Hour					
			Rate ¹			Trips			Rate ¹			Trips		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Scenario 1														
Residential														
Single Family Homes	115	1150	0.24	0.56	0.80	28	64	92	0.70	0.30	1.00	81	34	115
Townhomes	292	2336	0.13	0.51	0.64	37	150	187	0.56	0.24	0.80	163	70	233
Retail														
Auto Center	180	9000	1.75	0.75	2.50	315	135	450	1.60	2.40	4.00	288	432	720
Existing General Plan														
Shopping Center	300	21000	1.26	0.84	2.10	378	252	630	3.50	3.50	7.00	1050	1050	2100
Passby (PM Peak Hr.) ³												-210	-210	-420
Scenario 1 Total														
		-8,514				2	97	99				-309	-304	-612
Scenario 2														
Residential														
Single Family Homes	115	1150	0.24	0.56	0.80	28	64	92	0.70	0.30	1.00	81	34	115
Townhomes	292	2336	0.13	0.51	0.64	37	150	187	0.56	0.24	0.80	163	70	233
Retail														
Shopping Center	240	16800	1.26	0.84	2.10	302	202	504	3.50	3.50	7.00	840	840	1680
Passby (PM Peak Hr.) ³												-168	-168	-336
Existing General Plan														
Shopping Center	300	21000	1.26	0.84	2.10	378	252	630	3.50	3.50	7.00	1050	1050	2100
Passby (PM Peak Hr.) ³												-210	-210	-420
Scenario 2 Total														
		-714				-11	164	153				76	-64	12
1) Based on San Diego Association of Governments (SANDAG) Traffic Generation Rates (1998).														
2) Residential sizes are in units. Retail sizes are in KSF.														
3) A 20% passby was assumed for the shopping center during the PM peak hour per SANDAG.														

1) Based on San Diego Association of Governments (SANDAG) Traffic Generation Rates (1998).

2) Residential sizes are in units. Retail sizes are in KSF.

3) A 20% passby was assumed for the shopping center during the PM peak hour per SANDAG.

2015 General Plan Impacts

To determine the impact of the proposed modifications on the General Plan, the project trips shown in Table 19 were assigned to the 2015 roadway network for scenarios 1 and 2. These trips were assigned in accordance with the project trip distributions described in Chapter 4. Traffic impacts were evaluated by comparing the traffic conditions of the existing General Plan to those of scenarios 1 and 2. The level of service results for the study segments under year 2015 conditions are summarized in Tables 20 through 23. According to the definitions provided in Chapter 1, the proposed project would create an adverse significant impact at the following study segments under scenario 1:

- Tasman Drive, McCarthy to I-880, westbound, AM

The proposed project would have a beneficial impact on the following segments under scenario 1:

- Great Mall Parkway, I-880 to Main, westbound, AM
- Main Street, Carlo to Curtis, southbound, AM
- Calaveras Boulevard, Abel to Milpitas, eastbound, PM
- Calaveras Boulevard, Hillview to I-680, eastbound, PM
- Main Street, Curtis to Carlo, northbound, PM

Given the number of street segments that would benefit from scenario 1 versus the number that would be adversely impacted, scenario 1 would be mostly beneficial to the roadway network relative to the existing General Plan. Under scenario 2, the proposed project would create an adverse significant impact at the following study segments:

- Main Street, Curtis to Carlo northbound, AM
- Tasman Drive, McCarthy to I-880, westbound, AM
- Tasman Drive, McCarthy to I-880, eastbound, PM

The proposed project would not have a beneficial impact on any roadway segments under scenario 2. Given the number of street segments that would benefit from scenario 2 versus the number that would be adversely impacted, scenario 2 would be worse than the existing General Plan.

Aside from the mitigation presented in Chapter 4, Project Impacts and Recommendations, no mitigation measures are considered feasible for any of the other roadway segments that would be adversely impacted by scenarios 1 or 2. All of the segments projected to operate at unacceptable levels under the current General Plan will do so because no feasible mitigation measures can be implemented to increase capacity. All of these roadways are already built out and cannot be widened within the existing right-of-way. The secondary impacts of widening these roadways, which include right-of-way acquisition and demolition of existing buildings, would result in greater negative impact on the environment than accommodating the additional congestion. For this reason, these impacts are considered *significant and unavoidable*.

Table 20

Year 2015 - Northbound/Eastbound AM Peak Hour Volumes and LOS : Existing General Plan vs. Scenario 1 / Scenario 2

Segment	From	To	volumes		project trips				v/c		LOS		
			2015	Scenario 1	Scenario 2		Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2	
					volume	percent ²							volume ¹
Calaveras Blvd. ³													
1	I-880	Abbott Avenue	1,650	1,650	1,650	0	0.0%	0	0.0%	0.55	0.55	A	A
2	Abbott Avenue	Abel Avenue	1,500	1,510	1,500	10	0.3%	0	0.0%	0.50	0.50	A	A
3	Abel Avenue	Milpitas Boulevard	1,500	1,500	1,510	0	0.0%	10	0.3%	0.50	0.50	A	A
4	Milpitas Boulevard	Hillview Drive	1,000	1,000	1,010	0	0.0%	10	0.3%	0.33	0.34	A	A
5	Hillview Drive	I-680	1,150	1,150	1,160	0	0.0%	10	0.3%	0.38	0.39	A	A
Montague Expressway ³													
6	I-880	S. Main Street	2,250	2,250	2,250	0	0.0%	0	0.0%	0.68	0.68	B	B
7	S. Main Street	McCandless Drive	1,900	1,900	1,900	0	0.0%	0	0.0%	0.58	0.58	A	A
8	McCandless Drive	Great Mall Parkway	1,050	1,050	1,050	0	0.0%	0	0.0%	0.32	0.32	A	A
9	Great Mall Parkway	S. Milpitas Boulevard	1,150	1,150	1,170	0	0.0%	20	0.6%	0.35	0.35	A	A
10	S. Milpitas Boulevard	I-680	1,250	1,240	1,260	-10	-0.3%	10	0.3%	0.38	0.38	A	A
Milpitas Boulevard													
11	Dixon Landing Road	Jacklin Road	1,450	1,460	1,460	10	0.6%	10	0.6%	0.81	0.81	D	D
12	Jacklin Road	Calaveras Blvd.	800	800	800	0	0.0%	0	0.0%	0.44	0.44	A	A
13	Calaveras Blvd.	Yosemite Drive	800	810	810	10	0.6%	10	0.6%	0.45	0.45	A	A
14	Yosemite Drive	Montague Expressway	1,000	1,010	1,010	10	0.6%	10	0.6%	0.56	0.56	A	A
Abel Street													
15	N. Milpitas Boulevard	Calaveras Blvd.	650	660	670	10	0.6%	20	1.1%	0.37	0.37	A	A
16	Calaveras Blvd.	Great Mall Parkway	750	780	790	30	1.7%	40	2.2%	0.43	0.44	A	A
17	Great Mall Parkway	S. Main Street	900	900	900	0	0.0%	0	0.0%	0.50	0.50	A	A
Jacklin Road													
18	N. Milpitas Boulevard	I-680	900	900	910	0	0.0%	10	0.6%	0.50	0.51	A	A
Great Mall Parkway													
19	I-880	S. Main Street	500	510	530	10	0.4%	30	1.1%	0.19	0.20	A	A
20	S. Main Street	Montague Expressway	950	960	980	10	0.4%	30	1.1%	0.36	0.36	A	A
Tasman Drive													
21	McCarthy Boulevard	I-880	600	610	610	10	0.4%	10	0.4%	0.23	0.23	A	A
Main Street													
22	Curtis Avenue	Carlo Street	900	900	920	0	0.0%	20	2.2%	1.00	1.02	F	F
23	Great Mall Parkway	Curtis Avenue	590	590	590	0	0.0%	0	0.0%	0.33	0.33	A	A
24	Abel Street	Great Mall Parkway	770	770	770	0	0.0%	0	0.0%	0.43	0.43	A	A
25	Montague Expressway	Abel Street	1,240	1,240	1,240	0	0.0%	0	0.0%	0.69	0.69	B	B

Notes:

1. Volume rounded to nearest 10 trips per 9/23/99 McCarthy Ranch General Plan Amendment Supplemental EIR.

2. Trips as a percentage of 2015 capacity.

3. CMP routes.

 - Denotes adverse impacts.

 - Denotes beneficial impacts in bold.

Table 21

Year 2015 - Southbound/Westbound AM Peak Hour Volumes and LOS : Existing General Plan vs. Scenario 1 / Scenario 2

Segment	From	To	volumes		project trips				v/c		LOS			
			2015	Scenario 1	Scenario 1		Scenario 2	2015	Scenario 1	Scenario 2	2015	Scenario 1	Scenario 2	
					volume ¹	percent ²								volume ¹
Calaveras Blvd. ³														
1	I-880	Abbott Avenue	4,400	4,410	4,410	10	0.3%	10	0.3%	1.47	1.47	3,000	F	F
2	Abbott Avenue	Abel Avenue	3,300	3,320	3,320	20	0.7%	20	0.7%	1.11	1.11	3,000	F	F
3	Abel Avenue	Milpitas Boulevard	3,150	3,150	3,140	0	0.0%	-10	-0.3%	1.05	1.05	3,000	F	F
4	Milpitas Boulevard	Hillview Drive	2,750	2,750	2,740	0	0.0%	-10	-0.3%	0.92	0.91	3,000	E	E
5	Hillview Drive	I-680	3,450	3,450	3,440	0	0.0%	-10	-0.3%	1.15	1.15	3,000	F	F
Montague Expressway ³														
6	I-880	S. Main Street	5,000	5,000	5,000	0	0.0%	0	0.0%	1.52	1.52	3,300	F	F
7	S. Main Street	McCandless Drive	3,300	3,300	3,300	0	0.0%	0	0.0%	1.00	1.00	3,300	F	F
8	McCandless Drive	Great Mall Parkway	2,500	2,500	2,500	0	0.0%	0	0.0%	0.76	0.76	3,300	C	C
9	Great Mall Parkway	S. Milpitas Boulevard	3,300	3,290	3,290	-10	-0.3%	-10	-0.3%	1.00	1.00	3,300	F	E
10	S. Milpitas Boulevard	I-680	3,700	3,690	3,690	-10	-0.3%	-10	-0.3%	1.12	1.12	3,300	F	F
Milpitas Boulevard														
11	Dixon Landing Road	Jacklin Road	1,300	1,300	1,300	0	0.0%	0	0.0%	0.72	0.72	1,800	C	C
12	Jacklin Road	Calaveras Blvd.	1,000	1,000	1,000	0	0.0%	0	0.0%	0.56	0.56	1,800	A	A
13	Calaveras Blvd.	Yosemite Drive	900	900	900	0	0.0%	0	0.0%	0.50	0.50	1,800	A	A
14	Yosemite Drive	Montague Expressway	900	900	900	0	0.0%	0	0.0%	0.50	0.50	1,800	A	A
Abel Street														
15	N. Milpitas Boulevard	Calaveras Blvd.	2,500	2,500	2,500	0	0.0%	0	0.0%	1.39	1.39	1,800	F	F
16	Calaveras Blvd.	Great Mall Parkway	1,800	1,800	1,800	0	0.0%	0	0.0%	1.00	1.00	1,800	F	F
17	Great Mall Parkway	S. Main Street	1,200	1,210	1,210	10	0.6%	10	0.6%	0.67	0.67	1,800	B	B
Jacklin Road														
18	N. Milpitas Boulevard	I-680	1,500	1,500	1,500	0	0.0%	0	0.0%	0.83	0.83	1,800	D	D
Great Mall Parkway														
19	I-880	S. Main Street	3,250	3,120	3,240	-130	-4.8%	-10	-0.4%	1.20	1.16	2,700	F	F
20	S. Main Street	Montague Expressway	2,200	2,070	2,190	-130	-4.8%	-10	-0.4%	0.81	0.77	2,700	D	D
Tasman Drive														
21	McCarthy Boulevard	I-880	4,000	4,030	4,030	30	1.1%	30	1.1%	1.48	1.49	2,700	F	F
Main Street														
22	Carlo Street	Curtis Avenue	1,160	1,150	1,160	-10	-1.1%	0	0.0%	1.29	1.28	900	F	F
23	Curtis Avenue	Great Mall Parkway	1,200	1,200	1,200	0	0.0%	0	0.0%	0.67	0.67	1,800	B	B
24	Great Mall Parkway	Abel Street	760	760	760	0	0.0%	0	0.0%	0.42	0.42	1,800	A	A
25	Abel Street	Montague Expressway	1,160	1,170	1,170	10	0.6%	10	0.6%	0.64	0.65	1,800	B	B

Notes:

1. Volume rounded to nearest 10 trips per 9/23/99 McCarthy Ranch General Plan Amendment Supplemental EIR.

2. Trips as a percentage of 2015 capacity.

3. CMP routes.

 - Denotes impacts.

 - Denotes beneficial impacts in bold.

Table 22
Year 2015 - Northbound/Eastbound PM Peak Hour Volumes and LOS : Existing General Plan vs. Scenario 1 / Scenario 2

Segment	From	To	volumes		Scenario 1			Scenario 2			project trips		LOS		
			2015	Scenario 1	Scenario 2	volume ¹	percent ²	volume ¹	percent ²	2015	Scenario 1	Scenario 2	2015	Scenario 1	Scenario 2
Calaveras Blvd. ³															
1	I-880	Abbott Avenue	4,900	4,910	4,910	10	0.3%	10	0.3%	3,000	1.63	1.64	F	F	F
2	Abbott Avenue	Abel Avenue	4,100	4,120	4,120	20	0.7%	20	0.7%	3,000	1.37	1.37	F	F	F
3	Abel Avenue	Milpitas Boulevard	3,500	3,470	3,490	-30	-1.0%	-10	-0.3%	3,000	1.17	1.16	F	F	F
4	Milpitas Boulevard	Hillview Drive	2,900	2,870	2,890	-30	-1.0%	-10	-0.3%	3,000	0.97	0.96	E	E	E
5	Hillview Drive	I-680	3,400	3,370	3,390	-30	-1.0%	-10	-0.3%	3,000	1.13	1.12	F	F	F
Montague Expressway ³															
6	I-880	S. Main Street	5,800	5,800	5,800	0	0.0%	0	0.0%	3,300	1.76	1.76	F	F	F
7	S. Main Street	McCandless Drive	4,250	4,250	4,250	0	0.0%	0	0.0%	3,300	1.29	1.29	F	F	F
8	McCandless Drive	Great Mall Parkway	3,400	3,400	3,400	0	0.0%	0	0.0%	3,300	1.03	1.03	F	F	F
9	Great Mall Parkway	S. Milpitas Boulevard	2,200	2,120	2,180	-80	-2.4%	-20	-0.6%	3,300	0.67	0.66	B	B	B
10	S. Milpitas Boulevard	I-680	2,300	2,230	2,280	-70	-2.1%	-20	-0.6%	3,300	0.70	0.69	B	B	B
Milpitas Boulevard															
11	Dixon Landing Road	Jacklin Road	1,700	1,700	1,700	0	0.0%	0	0.0%	1,800	0.94	0.94	E	E	E
12	Jacklin Road	Calaveras Blvd	1,400	1,400	1,400	0	0.0%	0	0.0%	1,800	0.78	0.78	C	C	C
13	Calaveras Blvd	Yosemite Drive	1,700	1,690	1,700	-10	-0.6%	0	0.0%	1,800	0.94	0.94	E	E	E
14	Yosemite Drive	Montague Expressway	900	890	900	-10	-0.6%	0	0.0%	1,800	0.50	0.50	A	A	A
Abel Street															
15	N. Milpitas Boulevard	Calaveras Blvd.	2,800	2,790	2,800	-10	-0.6%	0	0.0%	1,800	1.56	1.56	F	F	F
16	Calaveras Blvd.	Great Mall Parkway	1,600	1,560	1,600	-40	-2.2%	0	0.0%	1,800	0.89	0.89	D	D	D
17	Great Mall Parkway	S. Main Street	1,350	1,340	1,360	-10	-0.6%	10	0.6%	1,800	0.75	0.76	C	C	C
Jacklin Road															
18	N. Milpitas Boulevard	I-680	1,600	1,590	1,600	-10	-0.6%	0	0.0%	1,800	0.89	0.89	D	D	D
Great Mall Parkway															
19	I-880	S. Main Street	2,400	2,290	2,370	-110	-4.1%	-30	-1.1%	2,700	0.89	0.88	D	D	D
20	S. Main Street	Montague Expressway	2,200	2,090	2,170	-110	-4.1%	-30	-1.1%	2,700	0.81	0.80	D	C	D
Tasman Drive															
21	McCarthy Boulevard	I-880	3,200	3,200	3,230	0	0.0%	30	1.1%	2,700	1.19	1.20	F	F	F
Main Street															
22	Curtis Avenue	Carlo Street	1,390	1,370	1,390	-20	-2.2%	0	0.0%	900	1.54	1.52	F	F	F
23	Great Mall Parkway	Curtis Avenue	990	990	990	0	0.0%	0	0.0%	1,800	0.55	0.55	A	A	A
24	Abel Street	Great Mall Parkway	1,080	1,080	1,080	0	0.0%	0	0.0%	1,800	0.60	0.60	B	B	B
25	Montague Expressway	Abel Street	1,870	1,860	1,880	-10	-0.6%	10	0.6%	1,800	1.04	1.03	F	F	F

Notes:

1. Volume rounded to nearest 10 trips per 9/23/99 McCarthy Ranch General Plan Amendment Supplemental EIR.

2. Trips as a percentage of 2015 capacity.

3. CMP routes.

□ - Denotes impacts.

□ - Denotes beneficial impacts in bold.

Table 23
Year 2015 - Southbound/Westbound PM Peak Hour Volumes and LOS : Existing General Plan vs. Scenario 1 / Scenario 2

Segment From	To	volumes		project trips				2015 capacity	v/c		LOS			
		2015	Scenario 1	Scenario 2		Scenario 1	Scenario 2		2015	Scenario 1	Scenario 2	2015	Scenario 1	Scenario 2
				volume ¹	percent ²									
Calaveras Blvd. ³														
1	I-880	1,950	1,960	1,960	10	0.3%	10	0.3%	3,000	0.65	0.65	B	B	
2	Abbott Avenue	1,750	1,760	1,760	10	0.3%	10	0.3%	3,000	0.59	0.59	A	A	
3	Abel Avenue	1,850	1,860	1,860	-30	-1.0%	10	0.3%	3,000	0.62	0.62	B	B	
4	Milpitas Boulevard	2,000	1,970	2,010	-30	-1.0%	10	0.3%	3,000	0.67	0.67	B	B	
5	Hillview Drive	2,050	2,010	2,050	-40	-1.3%	0	0.0%	3,000	0.68	0.68	B	B	
Montague Expressway ³														
6	I-880	2,400	2,400	2,400	0	0.0%	0	0.0%	3,300	0.73	0.73	C	C	
7	S. Main Street	2,160	2,160	2,160	0	0.0%	0	0.0%	3,300	0.65	0.65	B	B	
8	McCandless Drive	1,400	1,400	1,400	0	0.0%	0	0.0%	3,300	0.42	0.42	A	A	
9	Great Mall Parkway	1,500	1,400	1,490	-100	-3.0%	-10	-0.3%	3,300	0.45	0.45	A	A	
10	S. Milpitas Boulevard	1,430	1,340	1,420	-90	-2.7%	-10	-0.3%	3,300	0.43	0.43	A	A	
Milpitas Boulevard														
11	Dixon Landing Road	1,700	1,710	1,710	10	0.6%	10	0.6%	1,800	0.94	0.95	E	E	
12	Jacklin Road	1,200	1,200	1,200	0	0.0%	0	0.0%	1,800	0.67	0.67	B	B	
13	Calaveras Blvd.	900	890	910	-10	-0.6%	10	0.6%	1,800	0.50	0.51	A	A	
14	Yosemite Drive	1,600	1,590	1,610	-10	-0.6%	10	0.6%	1,800	0.89	0.89	D	D	
Abel Street														
15	N. Milpitas Boulevard	800	800	810	0	0.0%	10	0.6%	1,800	0.44	0.45	A	A	
16	Calaveras Blvd.	600	570	620	-30	-1.7%	20	1.1%	1,800	0.32	0.34	A	A	
17	Great Mall Parkway	1,500	1,490	1,500	-10	-0.6%	0	0.0%	1,800	0.83	0.83	D	D	
Jacklin Road														
18	N. Milpitas Boulevard	800	790	800	-10	-0.6%	0	0.0%	1,800	0.44	0.44	A	A	
Great Mall Parkway														
19	I-880	600	470	600	-130	-4.8%	0	0.0%	2,700	0.22	0.22	A	A	
20	S. Main Street	1,600	1,470	1,600	-130	-4.8%	0	0.0%	2,700	0.59	0.59	A	A	
Tasman Drive														
21	McCarthy Boulevard	1,100	1,080	1,100	-20	-0.7%	0	0.0%	2,700	0.41	0.41	A	A	
Main Street														
22	Carlo Street	680	670	690	-10	-1.1%	10	1.1%	900	0.76	0.77	C	C	
23	Curtis Avenue	660	660	660	0	0.0%	0	0.0%	1,800	0.37	0.37	A	A	
24	Great Mall Parkway	630	630	630	0	0.0%	0	0.0%	1,800	0.35	0.35	A	A	
25	Abel Street	960	950	960	-10	-0.6%	0	0.0%	1,800	0.53	0.53	A	A	

Notes:

1. Volume rounded to nearest 10 trips per 9/23/99 McCarthy Ranch General Plan Amendment Supplemental EIR.

2. Trips as a percentage of 2015 capacity.

3. CMP routes.

Denotes impacts.

Denotes beneficial impacts in bold.

7. Conclusions

The impacts of the development were evaluated following the guidelines set forth by the City of Milpitas, the City of San Jose, and the Santa Clara Valley Transportation Authority's (VTA) Congestion Management Program (CMP). Each intersection was analyzed using the appropriate level of service (LOS) methodology for the city in which it is located. Thirty-one intersections and six freeway segments were analyzed for this project. In addition, the proposed project's impacts during the PM peak hour were evaluated using the North San Jose Deficiency Plan (NSJDP) 22 intersection average.

Trip Generation & Distribution

The amount of traffic generated by the proposed project was estimated by applying the appropriate trip generation rates to the size of the development. The trip generation rates used were those published by the San Diego Association of Governments (SANDAG) for single family, condominium/townhouses, community shopping center, and automobile sales & repair uses. Pass-by reductions were applied to the shopping center use for only the PM peak hour in accordance with SANDAG recommended guidelines. Scenario 1 would generate 931 AM peak hour trips and 1,320 PM peak hour trips. Scenario 2 would generate 985 AM peak hour trips, and 1,944 PM peak hour trips. The proposed project's trip distribution pattern was estimated based on a variety of factors, including:

- the nature of the proposed use,
- the relative location of complementary land uses,
- previous traffic impact analyses conducted in the area,
- select zone analyses using the 2015 Milpitas Sub-Area Travel demand forecast (TDF) model, and
- select zone analyses using the 2025 BART TDF model.

Intersection Impacts

Project traffic volumes were calculated by adding peak-hour, project-generated traffic to the background volumes. Intersection level of service calculations were conducted to evaluate the impacts of the proposed project at the key intersections. Background conditions served as a base from which the

impacts were evaluated. The proposed project would create an adverse significant impact at the following study intersections under scenario 1:

- I-880 Northbound Off-ramp and Great Mall Parkway
- South Abel Street and Great Mall Parkway
- I-880 Southbound Off-ramp and Tasman Drive
- Alder Drive and Tasman Drive
- Calaveras Boulevard and Milpitas Boulevard*
- Great Mall Parkway/East Capitol Avenue and Montague Expressway*
- South Main Street and Carlo Street (unsignalized)
- South Main Street and Corning Avenue (unsignalized)

*Denotes CMP intersections.

All of the signalized intersections would operate at unacceptable levels of service under background conditions for one or both peak hours. The addition of scenario 1 traffic would increase the critical delay by more than 4 seconds and the V/C ratio by more than 0.01 at each of these intersections. At the unsignalized intersections, the project would result in each intersection operating below its level of service standard during one or more peak hours.

Under scenario 2 conditions, the proposed project would create significant impacts at all of the same locations described in scenario 1. However, the average intersection delays would be higher than those of scenario 1 because scenario 2 would add more traffic to the study intersections. Scenario 2 would result in two additional impacts at the following CMP intersections:

- McCandless Drive/Trade Zone Boulevard and Montague Expressway
- South Main Street/Oakland Road and Montague Expressway

These signalized intersections would operate at unacceptable levels of service under background conditions (LOS F). The addition of scenario 2 traffic would increase the critical delay by more than 4 seconds and the V/C ratio by more than 0.01.

Freeway Segment Impacts

Per CMP guidelines for freeway segments, project traffic volumes were calculated by adding peak-hour, project-generated traffic to the existing volumes. The proposed project would create an adverse significant impact at the following freeway segments under both scenarios 1 and 2:

- I-880, Tasman Drive to Montague Expressway - Northbound (PM peak hour)
- I-880, Brokaw Road to Montague Expressway - Southbound (PM peak hour)

It should be noted that the impacts on the freeway segments shown above are located on or directly adjacent to the recent widening of I-880 between Montague Expressway and U.S. 101. However, the average vehicle speeds and volume data supplied by the CMP on these segments were based on traffic conditions before the widening. For this reason, the freeway level of service calculated for this report may be artificially poor. It is believed that traffic conditions on these segments will show significant improvement in the next round of CMP monitoring, which would offset the impact of project traffic. The level of improvement cannot be predicted with certainty. For this reason, and the fact that no feasible project mitigations exist, these impacts should be considered *significant and unavoidable*.

North San Jose Deficiency Plan Impacts

The impacts of the proposed project also were evaluated using the North San Jose Plan (NSJDP) criteria. To remain consistent with NSJDP methods, only San Jose's approved trips were used in the background condition calculation. Under background conditions, the 22-intersection average delay was 60 seconds using TRAFFIX software. With the addition of project traffic, the 22-intersection average would remain at 60 seconds. According to the NSJDP impact criteria, the proposed development would not impact North San Jose, and therefore, mitigation would not be required.

Intersection Mitigation

This section discusses project mitigation for the intersection level of service impacts previously described. The following intersection impacts could be mitigated to less than significant levels by the proposed development under scenarios 1 and 2.

South Main Street and Carlo Street. The intersection of South Main Street and Carlo Way is currently unsignalized and would operate at LOS E under scenarios 1 and 2 during the PM commute hours. The City has plans to signalize this location, but has yet to collect sufficient funds to complete the improvement. A traffic signal would improve the level of service at this location to better than LOS D under scenarios 1 and 2 during both the AM and PM peak hours. Therefore, the recommended mitigation at this location is for the project to make a "fair share" monetary contribution to this improvement so that it could be implemented before the project is completed. The implementation of this mitigation would reduce the project's impact under scenarios 1 and 2 to *less than significant levels*.

South Main Street and Corning Avenue. The intersection of South Main Street and Corning Avenue is currently unsignalized and would operate at LOS E during the PM peak under scenario 1 and scenario 2. A traffic signal would improve the level of service at this location to better than LOS D under scenarios 1 and 2 during the PM peak hour. Therefore, the recommended mitigation is for the project to construct a traffic signal at this location. The implementation of this mitigation would reduce the project's impact under scenarios 1 and 2 to *less than significant levels*.

In the *Milpitas Midtown Specific Plan EIR*, impacts to the following study intersections were considered *significant and unavoidable* because no feasible mitigation measures could be identified:

- I-880 Northbound Off-ramp and Great Mall Parkway
- South Abel Street and Great Mall Parkway
- I-880 Southbound Off-ramp and Tasman Drive
- Calaveras Boulevard and Milpitas Boulevard*
- Great Mall Parkway/East Capitol Avenue and Montague Expressway*
- South Main Street/Oakland Road and Montague Expressway* (scenario 2 impact only)
- McCandless Drive/Trade Zone Boulevard and Montague Expressway* (scenario 2 impact only)

* Denotes CMP intersections.

A full discussion of these intersections and the lack of feasible improvements is provided in the *Milpitas Midtown Specific Plan EIR*. Under scenario 1 or scenario 2 conditions, there are no feasible mitigation measures to reduce the impacts at these intersections to less than significant levels. Therefore,

the impacts at these intersections are *significant and unavoidable*. However, as *partial mitigation* for these impacts, the following measures are recommended:

Midtown Specific Plan Traffic Mitigation Fee. The city has set up a traffic mitigation fee within the Midtown Specific Plan area to fund improvements that are not feasible for individual projects. It is recommended that the proposed project pay its "fair share" of these fees based on the magnitude of its impacts.

Intersections along Montague Expressway. The City of Milpitas and County of Santa Clara currently have plans to widen Montague Expressway between I-880 and I-680 to three mixed flow lanes and one 24-hour HOV lane in each direction. The segment between Great Mall Parkway and I-680 has recently been fully funded by the City of Milpitas and the County of Santa Clara. However, other portions of this improvement remain unfunded. As partial mitigation for project impacts, it is recommended that the proposed project contribute its "fair share" to the costs of widening Montague Expressway. The "fair share" cost is to be determined by the City based on the magnitude of the project impacts.

Improvement to East/West Corridor. The City of Milpitas is currently planning traffic improvements at the intersection of Calaveras Boulevard/Abel Street. Improvements to this intersection would decrease traffic delays on Calaveras Boulevard, which is a key east/west commute corridor in the city. The project would be located in close proximity to this intersection, and therefore, it would send a significant number of project trips through the intersection. Because of this, and the fact that the project cannot fully mitigate its impacts on other east/west corridors (such as Calaveras Boulevard, Tasman Drive and Montague Expressway), it is recommended that the proposed project make a "fair share" monetary contribution to the planned traffic improvements at this intersection.

Great Mall Parkway/I-880 Ramps. Elmwood Road would form the north leg of the Great Mall Parkway/I-880 Ramps intersection. As it is currently configured, the north approach of this intersection has one right-turn lane and one shared left-through lane. This intersection would operate at LOS F under both scenarios during one or more peak hours. In the *Midtown Specific Plan EIR*, the impact to this location was considered significant and unavoidable due to the high costs of improving it to an acceptable level of service. Much of the future delay problem at this intersection is caused by existing and background traffic. However, improvements to the north leg of the intersection where project access occurs would improve intersection operations. Therefore, it is recommended that the proposed project implement the following geometry at the north leg under either project scenario:

North Approach: One right-turn lane, one shared through-left lane, and one left-turn lane.
North Receiving Lane: One northbound lane.

In addition, the project would be responsible for all signal modifications in conjunction with this improvement.

Tasman Drive and Alder Drive. This intersection would operate at LOS F during the PM peak hour under scenarios 1 and 2. The *Milpitas Midtown Specific Plan* identified mitigation measures for this intersection, but stated that the need for the improvements should be re-evaluated in the future due to potential complications with light rail operation, which runs through the intersection along Tasman Drive. The city has already committed to funding an improvement at this location, if appropriate. However, the intersection would still operate at LOS F. Aside from this improvement, there are no other feasible improvements to this intersection. Therefore, this impact is *significant and unavoidable*.

2015 Impacts

The proposed project contains elements that are inconsistent with the existing Milpitas General Plan. Under the existing General Plan, approximately 34 acres north and west of the existing Elmwood Correctional Facility are planned for commercial uses. This area is referred to in the *Milpitas Midtown Specific Plan* as the Elmwood opportunity site. Under the proposed General Plan, portions of this area would be re-designated to allow residential uses. The proposed condominium uses on the east side of Abel Street would be consistent with the City's General Plan.

The proposed modification to the General Plan would result in changes in traffic generation from the Elmwood opportunity site. Under scenario 1, daily traffic would decrease by 8,514 trips, PM peak hour traffic would decrease by 612 trips and AM peak hour traffic would increase by 99 trips. Under scenario 2, daily traffic would decrease by 714 trips, PM peak hour traffic would increase by 12 trips and AM peak hour traffic would increase by 153 trips.

To determine the impact of the proposed modifications on the General Plan, project trips were assigned to the 2015 roadway network for scenarios 1 and 2. Traffic impacts were evaluated by comparing the traffic conditions of the existing General Plan to those of scenarios 1 and 2. The proposed project would create an adverse significant impact at the following study segments under scenario 1:

- Tasman Drive, McCarthy to I-880, westbound, AM

The proposed project would have a beneficial impact on the following segments under scenario 1:

- Great Mall Parkway, I-880 to Main, westbound, AM
- Main Street, Carlo to Curtis, southbound, AM
- Calaveras Boulevard, Abel to Milpitas, eastbound, PM
- Calaveras Boulevard, Hillview to I-680, eastbound, PM
- Main Street, Curtis to Carlo, northbound, PM

Given the number of street segments that would benefit from scenario 1 versus the number that would be adversely impacted, scenario 1 would be mostly beneficial to the roadway network relative to the existing General Plan. Under scenario 2, the proposed project would create an adverse significant impact at the following study segments:

- Main Street, Curtis to Carlo northbound, AM
- Tasman Drive, McCarthy to I-880, westbound, AM
- Tasman Drive, McCarthy to I-880, eastbound, PM

The proposed project would have not have a beneficial impact on any roadway segments under scenario 2. Given the number of street segments that would benefit from scenario 2 versus the number that would be adversely impacted, scenario 2 would be worse than the existing General Plan.

Aside from the mitigation presented in Chapter 4, Project Impacts and Recommendations, no mitigation measures are considered feasible for any of the other roadway segments that would be adversely impacted by scenarios 1 or 2. All of the segments projected to operate at unacceptable levels under the current General Plan will do so because no feasible mitigation measures can be implemented to increase capacity. All of these roadways are already built out and cannot be widened within the existing right-of-way. The secondary impacts of widening these roadways, which include right-of-way acquisition and demolition of existing buildings, would result in greater negative impact on the environment than accommodating the additional congestion. For this reason, these impacts are considered *significant and unavoidable*.